# USING CULTURAL-HISTORICAL ACTIVITY THEORY (CHAT) TO STUDY THE RELATIONSHIP BETWEEN SCHOOL LEADERSHIP AND ORGANISATIONAL CHANGE

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**Abstract**

School leadership practice is part of the dynamics of a school or department activity system, and it is influenced by contextual and social conditions. The study of school leadership has been an enduring concern of school reformers for decades. However, traditional conceptualisations of leadership have not captured the complexity and dynamics of educational leadership practices, and comprehension of their role in educational-reform settings is limited. This study aims to find out how school leaders' practices influence department activities during school transformation or organisational change.

To address the shortcomings of the school leadership literature, I chose to use Engeström's (1987) version of Cultural Historical Activity Theory (CHAT) to explore emerging disturbances and contradictions within and between school departments which take place during organisational change. The school at the focus of this investigation is a P-12 independent school in a major city of Chile, called here the English School. Within the Chilean education system, the English School is a private fee-paying school, financed by fees paid by parents and run by a private school board within a voucher educational system. At the time of the data collection, the English School was going through the most severe budget cuts since its foundation in 1990. Data were collected through a combination of six qualitative research methods over a period of four months.

Findings indicate that successfully implementing organisational change in schools relies largely on how the school departments work as activity systems, how their leadership processes take place, and how the organisational change can be aligned with and reinforced by the systemic components of the school departments. The systemic stability of the

departments was shown to rest upon the departments' objects, artefacts and rules. When the organisational change was introduced, each of these components was threatened by opposing leadership practices which sought either to preserve them or modify them. Transformational department leaders were shown to use artefacts as means to maintain their object alive, while rules were the means through which they motivated the teachers to preserve the object. During the change, school authorities who exerted transactional leadership disrupted department functioning, whereas transformational leadership tended to protect and keep alive the departments' former systemic components. Transactional leadership practices were major sources of systemic disturbances and systemic contradictions when the authorities exerted pressure on the heads. Moreover, school leaders who could not gain acceptance in their community by appropriating their cultural components, aggravated the emerging disturbances and contradictions, which could not be solved.

Overall, this study illustrates important reasons why organisational changes may fail, and it directs school leaders' attention to working with different department leaders. Department leaders and teachers saw themselves as "caretakers" when change efforts seemed to jeopardise the accepted object of their departments. Thus, reforms which presuppose internal organisational changes must work not only with the tangible elements of the organisation, such as management structures and decision rules, but also with the key decision makers within the departments. To successfully lead these changes in schools, leaders should promote the change they envision as highly consistent with the current collective identity (shared object). From this perspective, the object, artefacts, rules and other systemic components may be given a sense of preservation and continuity, rather than loss.

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This work would not have been possible without the following people. With my deepest appreciation, this dissertation is dedicated to:

My Lord and Saviour, Jesus Christ. I can do all things through Christ which strengtheneth me (Phil. 4:13). I've read it for years. Now, I believe it.

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**Statement of Original Authorship**

I declare that this thesis is my own work and has not been submitted in any form for another degree or diploma at any university or other institution of tertiary education. Information derived from the published or unpublished work of others has been acknowledged in the text and a list of references is given.

QUT Verified Signature

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# School Departmental Leadership: An Introduction

## 1.0 Introduction

The study of school leadership has been an enduring concern of school reforms for decades (Lingard, Hayes, Mills, & Christie, 2003). School leadership pervades all organisational levels within a school during reform initiatives. It contributes to organisational learning (Firestone & Martinez, 2007; Leithwood & Mascall, 2008; Lewis & Murphy, 2008), improves departmental effectiveness (Harris, 2000), influences teachers' educational interactions with their students (Mulford, 2006), and enhances students' learning-outcomes (Harris, 2003a).

The role of heads of departments has become increasingly complex yet critical for achieving school improvement (Dinham, 2007). Because they are neither fully teachers nor fully administrators, they need to perform as a conduit for all the tensions in the relationships between school authorities and department teachers (Melville & Wallace, 2007; Siskin, 1994). The emphasis of educational reforms has shifted from empowering individuals (e.g. the principal) to empowering professional communities (Hargreaves, 2009; Smylie, Conley, & Marks, 2002) and emphasising collaborative work among school staff (Leithwood & Mascall, 2008). Consequently, there have been radical transformations in decision-making processes and patterns of school management (Hargreaves, 2000; Smylie et al., 2002), which have been introduced because of financial stringency (Ritchie et al., 2006), outside pressures, and organisational restructuring (Hargreaves, 2000; Louis, 2007). Moreover, the creation of new teaching and learning environments requires curricular reform measures, workforce re-modelling and managing teaching workloads, which have been

accompanied by significant disruption and disturbances inside school systems (Edwards, 2008).

Thus, the changing nature of education requires leaders who are able to respond to the external demands of the school authorities and enable their departments to adapt quickly when facing a changing environment (Brighouse, 2004). Research has found that good communication, the facilitation of group processes, and the development of positive relationships are important for the success of heads of departments (Harris & Lambert, 2003). This thesis examines the leadership practices of department heads during a period of school organisational change.

Despite pressures on heads of departments, a review of school leadership literature shows that few studies inform school leaders of the sort of leadership practices needed to overcome the conflicts and disturbances that emerge when implementing organisational change (Lewis & Murphy, 2008; Melville, Wallace, & Bartley, 2007). Much of the leadership research has been grounded in traditional views of leadership theories (e.g. trait, behavioural, situational and transformational approaches) which have emphasised the leader's position rather than collaborative practices (Hunt & Dodge, 2000; Leithwood & Jantzi, 2005). Avolio and Gardner (2005) conclude that over the last 100 years of research, most leadership theories have given little attention to leadership processes. The traditional definitions of leadership have not captured the complexity and dynamics of the educational leadership practices, and comprehension of their roles in educational-reform settings is limited.

The scarcity of research on school leadership as a systemic and collaborative activity has been acknowledged by a number of researchers. First, there is little evidence about how leaders can influence school-department activities to generate new practices (Spillane, Diamond, & Jita,

2003). School departments have a profound influence on school performance; they are considered to be the fundamental unit of change in schools (Busher & Harris, 1999). Furthermore, the literature highlights that differences in performance between departments can significantly explain differences in school performance (Harris, 2000). Yet, little is known about how leaders can influence school department activities (Leithwood & Mascall, 2008; Walji, 2009). Leadership research should inform how participants collaborate and give sense to their work (Gronn, 2002). There is a need for explaining the interrelationships among the different kinds of leadership practices (Southworth, 2002). Finally, there is little research about what artefacts (e.g. department meeting agendas, assessment reports) are used by participants in leadership practice (Robinson, 2008; Spillane, 2006).

Thus, research should focus on gaining a better understanding of the leadership practices as a systemic and collaborative activity. This thesis attempts to address these shortcomings in the literature. The study aims to find out how school leaders' practices influence department activities during school transformation or organisational change. The conceptualisation of leadership practices adopted in this study follows Spillane (2006), who takes leadership as part of an overall activity system that is influenced not only by the immediate situation, but also by broader contextual and social influences upon the school and departments. Thus, leadership practices unfold in the moment-by-moment interactions in a particular place and time.

### 1.1 Background of the research setting

The school at the focus of this investigation is a P-12 independent school in a major city of Chile, called here the English School. At the time of my data collection, about 800 students were enrolled at the school.

Within the Chilean education system, the English School is a private fee-paying school, financed by fees paid by parents and run by a private school board within a voucher educational system. Chilean educational reforms have been characterised by the introduction and implementation of a voucher system to encourage private providers entering the market (Avalos, 2004; Mizala & Romaguera, 2000). Over the last two decades, educational reforms have promoted school choice policies as a means to increase the competition among schools (Mizala & Tourche, 2012). School choice has gone hand in hand with standardised performance tests, known as the SIMCE and PSU tests (Education Quality Measure Systems). According to the Chilean Ministry of Education, these education quality-measure tests are essential to the reform process, as parents need objective indicators of performance to assess schools' educational outcomes. More specifically, the Chilean Ministry of Education publishes in the newspaper the schools' performance in the SIMCE and PSU tests and classifies them into good (green), average (yellow) and poor (red) school performance. Unsurprisingly, research shows that these tests and the fact that school performance is published in the newspaper have progressively increased competition (Anand, Mizala, & Repetto, 2009).

The flourishing economic situation in the region in which the school was situated facilitated its rapid development. From 1989 until 2005, student enrolment steadily increased from 300 to 2000 students. The increase in student enrolments was accompanied by good academic results in the national SIMCE and PSU tests. In fact, the English School was at the top of the National School Rankings for many years. The departmental structure of the school was designed and implemented during this flourishing period. However, since 2005 the English School faced an economic and educational crisis. The school enrolment had decreased from 2000 students in 2005 to approximately 800 students in 2010.

At the time of the data collection, the English School was going through the most severe budget cuts since its foundation in 1990. The school administration decided to remove the more experienced and better paid teachers to balance out the budget. School authorities decided to increase employment of novice teachers (with no work experience) as a way to cut the budget deficit of the school. This plan received widespread opposition from the school community, especially from veteran teachers. The experienced teachers pointed out to the school authorities the potential consequences of these decisions on each department's unity and cohesion, departmental objectives, teamwork and the students' outcomes.

Mr. Bryan (a pseudonym, as for all names used herein), a British man in his 80s and the current principal and founder of the English School, had spent 20 years at his post. Two years prior to this study, the school board hired Mr. George, a Chilean teacher, to fill the vice-principal position. One of the first actions of Mr. George at the English School was to merge the math and science departments. As a following measure, the vice-principal appointed Mr. Sam, the former head of the math department, as the new head of the merged math-science department. Monica, the former head of science was demoted from her position as a head of science.

The national educational reform caused Chilean schools to compete for students. Unfortunately, the English School's academic performance on the national tests deteriorated, affecting its public reputation. As a result, the English School detracted from its school mission: educating a complete individual, spiritually, morally, intellectually and socially whole (Mr Bryan, interview). Thus, the English School became an interesting case study in the context of the current Chilean reform.

## *1.2* Purpose of the study

To address the shortcomings of the school leadership literature, I chose to use Cultural-Historical Activity Theory (hereafter referred to as CHAT, Engeström, 1987) to explore the disturbances and contradictions within and between the school departments. CHAT enabled me to make sense of how leadership practices are embedded within a more unstable system of collective activity. Subjects within organisations have different and sometimes opposite views about the object of the activity. CHAT affords the opportunity to identify systemic disturbances and contradictions and to explain why they are the result of the systems' activity. Contradictions and disturbances are not meant to imply negativity; they are the motive force of change and development that can lead to innovation and transformation in an activity system (Engeström, 1987, 1999). As contradictions are resolved, "the community learns to widen its object and possibilities for action by re-designing its own activity" (Engeström, 2009, p. 25). Unresolved contradictions, on the contrary, lead to stagnation of the activity system and possibly its death. I chose CHAT as a theoretical and methodological lens because it enables me to focus on the artefacts that mediate the relationships between leaders and followers involved in the department activities. In CHAT studies, the object or motive of the activity "can be constructed only by using artefacts and in no other way" (Miettinen, 2001, p. 304).

## *1.3* Research Questions

This thesis examines the leadership practices of heads of departments during a period of school organisational change. The three research questions were:

i) What kind of leadership practices does the head of department adopt when facing the demands of the school authorities during a period of organisational change?

ii) What other leadership practices arise when implementing organisational change?

iii) How does the department respond to the leadership practices of the head of department during a period of organisational change?

## *1.4* Significance of the study

This thesis contributes to the literature on school leadership and organisational change by focusing on school leadership practices taken "as part of" and "embedded within" interconnected activity systems. This systemic viewpoint redirects the study of school leadership from the formal leadership positions (such as the principal, vice-principal or head of department) to a new scope in which leadership practices are dispersed across the school and which are not explicitly associated with formal leadership roles. In other words, a systemic viewpoint examines how the leadership practices are exercised across the school and its communities for best organisational change outcomes. Finally, the study facilitates the identification and understanding of the disturbances and contradictions that hinder organisational change. It contributes to the growing body of knowledge on the selection, creation, and usage of cultural artefacts that improve effectiveness of school reform.

### *1.5* The overview of this thesis

This thesis is presented in seven chapters. Chapter 1 presents the background of this study, statement of the problem, research questions and significance of this research.

In Chapter 2, I show the need to focus on leadership practice rather than the leaders' personal traits, and introduce CHAT as a theoretical framework to identify and describe the relationship between leadership practice and organisational change in school contexts. The first part of the chapter advances a review of the literature on school leadership. I analyse several components that scholars have utilised to define leadership, such as organisational quality, influence processes, notion of power, leader-follower relationship, values, vision, and direction in leadership. The conjugation of these components allowed me to understand the characteristics of the different approaches to leadership practices. I describe several leadership practices namely: trait, behavioural, situational, transactional, transformational, charismatic leadership, authentic leadership, instructional leadership, and distributed leadership. I identify the main limitations of the traditional approaches to leadership. The second part of the chapter focuses entirely on CHAT. I justify why CHAT offers a more suitable framework to the study of leadership in organisational change contexts: i) CHAT introduces the concept of culture, ii) CHAT emphasises the interrelationship between several leaders, iii) CHAT advances that effective leadership depends much more on collaborative efforts sustained by networks of leaders and followers and iv) CHAT allows the investigation of the complex dynamics between leadership practices and organisational change.

Chapter 3 discusses research methods, site selection, participants, data collection and data analysis. I draw on data from a case study at a P-12 independent Chilean school, called here the English School. The data were collected through a combination of six qualitative research methods over a period of four months (July to November of 2010). I use data from: (1) interviews, (2) participant observation, (3) shadowing method, (4) field notes, (5) formal documents, and (6) teachers' journal reflections (e.g. a daily record each teacher maintained of their activities). The study pursued a better understanding of how school leaders influence department activities during a period of school transformation or organisational change. Additionally, it sought to understand what sorts of leadership practices are needed to overcome the disturbances that emerge when implementing organisational change.

Chapters 4 and 5 examine leadership practices and disturbances in two school departments. Because I applied the same research method in both departments, these two chapters have been structured similarly. In the first part of chapters 4 and 5, the seven components of CHAT are used to identify and describe the social science department and math-science departments as activity systems, respectively. The second part of both chapters analyses disturbances that were prompted by the leaders' actions. Both chapters conclude with the analysis of different leadership practices and their influences on the organisational change process.

Chapter 6 connects the disturbances (disagreements, criticisms, miscommunications and misunderstandings) which were found in chapters 4 and 5 with systemic contradictions. I identified contradictions between the vice-principal, the heads of department and the teachers.

Chapter 7 provides a conclusion to this thesis. The study yields important insights about the heads of department and the department communities

when facing disturbances and contradictions. Overall, this study illustrates important reasons why organisational change may fail and it directs school leaders' attention to the necessity to work with different department leaders.

# CHAPTER 2

# Literature Review

## *2.0* Introduction

As described in Chapter 1, the purpose of the present study is twofold. First, to find out how school leaders' practices influence department activities during school transformation or organisational change. Second, it seeks to understand what sorts of leadership practices are needed to overcome the disturbances that emerge when implementing organisational change.

This chapter presents Cultural-Historical Activity Theory (CHAT) as a theoretical framework capable of identifying and describing the dynamics of the leadership practices in school settings. There are four components to this presentation. First, different foci of leadership definitions are defined in Section 2.1. It has been argued that one of the main limitations in many leadership studies has been the lack of a more comprehensive definition of what leadership actually means (Robinson, 2008), thus the purpose of this section is to identify a relevant and comprehensive definition of leadership. Second, diverse approaches to leadership practices are introduced and briefly examined in Section 2.2. CHAT is presented in Section 2.3 as a theoretical framework for analysing leadership practices. Finally, Section 2.4 presents a general discussion and conclusions of the chapter.

## *2.1* Different foci of leadership conceptualisations

Many scholars have paid considerable attention to the concept of leadership. According to some researchers, there are almost as many definitions of leadership as there are persons who have attempted to define the concept (Avolio, Walumbwa, & Weber, 2009; Foster, 2004; Stogdill, 1974; Storey, 2004) and it is not surprising that the vast leadership literature shows no agreed conceptualisation of leadership (Leithwood & Duke, 1999; Ogawa, 2005; Richmon & Allison, 2003). Yukl and Van Fleet (1992) have claimed that it "is better to use the various conceptions of leadership as a source of different perspectives on a complex, multifaceted phenomenon" (p. 147). In later work, Yukl (2002) states, "the definition of leadership is arbitrary and very subjective. Some definitions are more useful than others, but there is no 'correct' definition" (pp. 4-5). Likewise, Leithwood and Duke (1999) conclude that "persevering on the development of a precise definition of a complex concept like leadership is likely to be counterproductive" (p. 46). The following section of the literature review will explore several common components that scholars have utilised to define leadership.

### *2.1.1 Leadership as organisational quality*

From an organisational perspective, leadership can be recognised in the emergent organisational relationships (Ogawa & Bossert, 1995; Schein, 1992; Sillins, Mulford, & Zarins, 2002; York-Barr & Duke, 2004). According to Ogawa and Bosssert (1995), leadership is embedded in the relationship between networked roles. This implies that the medium of leadership and the currency of leadership lie in the personal resources of people. They define leadership as "something that flows throughout an organisation, spanning levels and flowing both up and down hierarchies" (p. 26). Using the conceptual framework described by Ogawa and Bossert

(1995), Pounder et al. (1995) examine the leadership exerted by various roles at a school. The authors found how leadership can be provided by different roles for different organisational purposes. Principals and groups of teachers may influence commitment, but parents are more likely to influence student achievement.

### *2.1.2 Leadership as influence processes*

The processes of influence are central in many definitions of leadership (Burns, 1978; Cuban, 1988). The leadership relationship involves influence: both leaders and followers actively attempt to influence each other towards some purpose. Yukl (1994) explains that this influence is exerted on the tasks and strategies of a group or organisation, on people in the organisation to implement the strategies and achieve the objectives, on group maintenance and identification, and on the culture of the organisation. Bass and Bass (2008) indicate that although leadership has been conceptualised in many different ways, the myriad of factors explored by researchers has focused heavily on how leaders exert influence on followers. After reviewing several follower-centered approaches to leadership, Avolio (2007) suggests that "most leadership research has considered the follower a passive or nonexistent element when examining what constitutes leadership" (p.26). To sum up, the processes of how influence occurs are countless, and the form of influence defines the different models of leadership (Vroom & Jago, 2007).

### *2.1.3 Leadership as a special form of power*

According to Burns (1978) "leadership is a special form of power involving a relationship of shared intention or purpose among persons, whether they are power holders or recipients, in the realisation of a collective act" (p. 13). Middlehurst (2004) stresses the connection between power, influence

and authority where power holders are able to give orders and ensure they are enforced. Power can be used in different ways in different approaches. According to Howell (1988), persuasive charismatic leaders can abuse their interpersonal power for self enhancement and personal gain, and exploit followers who are vulnerable (Howell, 1988). Transformational leaders empower their followers by delegating responsibilities and encouraging them to think independently and to challenge the leaders' ideas (Kark et al., 2003).

### *2.1.4 Leadership as a relationship between leader and followers*

Leadership involves a leader and followers who willingly subscribe to common purposes and work together to achieve them (Yukl, 2002). Leadership is a relationship between those who aspire to lead and those who choose to follow. Leadership is something one experiences in an interaction with another human being (Kouzer & Posner 2011). Zaccaro, Heinen, and Shuffler (2009) maintain that leadership can be defined as a multilevel relationship because traditional leadership models have not made a clear distinction between leader–follower relationship and leader–team relationship.

### *2.1.5 Leadership and values*

Leadership is grounded in personal and professional values (Bush & Glover, 2003). Hodgkinson (1991) claims that "values constitute the essential problem of leadership … if there are no value conflicts then there is no need for leadership" (p.11). Wasserberg (1999) concludes that “the primary role of any leader is the unification of people around key values” (p. 158). DuFour, DuFour, Eaker, and Many (2006,) believe that “leaders

establish personal credibility far more readily by what they do than by what they say. The expression of strong moral purpose only generates cynicism if the commitment is not manifested through behaviour" (pp. 193-194).

### *2.1.6 Leadership and vision*

Successful leaders develop a vision for their schools based on their personal and professional values. For instance, personal values are significant for transformational leaders "given the fundamental role of value-laden visions that inspire follower effort and performance" (Groves & LaRocca, 2012, p. 217). Moreover, research suggests that leaders of successful departments have developed a clear vision for what they want to achieve (Dinham, 2007; Harris, 2003b).

### *2.1.7 Leadership and direction*

Scholars have emphasised the directional aspect of leadership. To them, leadership is all about organisational improvement; more specifically, it is all about establishing widely agreed upon and worthwhile directions for the organisation and doing whatever it takes to prod and support people to move in those directions (Leithwood, 2006). Likewise, Kotter and Heskett (1992) assert that "successful leaders are able to create a perceived need for change, and must create and communicate effectively a new vision and set of strategies and then behave accordingly on a daily basis" (p. 101).

In short, the literature on leadership confirms that the combination of these components (i.e. influence processes, notion of power, leader-follower relationship, social context of leadership, values, vision and direction) define the different approaches to leadership. Taken together, the literature reveals the use of several definitions of leadership, but the great

majority of these efforts have failed in offering an explanation of the practical implications of leadership. As explained by Muijs and Harris (2003),

> The vast leadership literature reveals that leadership is largely premised upon individual rather than collective action, and a single view of leadership continues to dominate, equating leadership with headship. Schools … remain largely unchanged, equating leadership with status, authority, and position. (p. 437)

In this research I assume a practical approach to leadership in which leadership may be attributed to individuals and work units acting concretely in either formal or informal workplace groupings (see also Miettinen, 2006). Leadership practices are embedded in object-oriented and artefact-mediated collective activities that evolve and change over time (Gronn, 2000).

## *2.2* A review of the main leadership approaches

The purpose of this section is twofold. First, I identify and describe the key ideas of several leadership approaches; namely, trait, behavioural, situational, transactional, transformational, charismatic leadership, authentic leadership approach, instructional leadership approach and distributed leadership. Second, the focus of these leadership approaches provides a conceptual tool useful when enquiring about the dynamic of leadership practices within the two school departments in focus of this study.

### *2.2.1 The trait approach*

This approach proposes that leaders possess certain outstanding physical and psychological dispositions that determine their rise to power (Arvey, Rotundo, Johnson, & McGue, 2006; Fleishman, Zaccaro, & Mumford, 1991; House & Podsakoff, 1994). When discussing the origin of trait approaches and its relationship with evolutionary theory, Judge, Piccolo and Kosalka (2009) conclude that the trait approach "relies on the general premise that certain traits facilitate the emergence of leadership, and that such leadership emergence is linked to fitness (i.e. psychological adaptation, or the degree to which a mechanism solves adaptive problems necessary to procreation and survival)" (p. 857). The trait approach to leadership assumes that what differentiates great leaders from non-leaders stems from inborn qualities that are stable and enduring over time (Ray, Clegg, & Gordon, 2004; Stephen, Zaccaro, & Bader, 2004; Stogdill, 1948). Traits such as self-confidence, sociability, adaptability and cooperativeness, among others were thought to enable leaders to inspire others, and thus get others to follow (Yukl, 2002). Stogdill (1948) summarises the trait findings in the leadership literature, concluding that "leadership is not a matter of passive status or of the mere possession of some combination of traits" (p. 66). In addition, the trait approach to leadership has been inadequate to study leadership during complex periods of organisational change. Dinh and Lord (2012,) recently pointed out that "the appeal of trait approaches may be limited when the goal is to understand how dynamic intrapersonal processes can affect leadership perception and performance as leaders adjust to a wide array of organisational tasks and social situations" (p. 653).

### *2.2.2 The behavioural approach*

According to this approach, leadership is learned by acquiring a set of behaviours or a leadership style necessary for effective leadership (Klenke, 1996; Muldoom, 2004). This approach supposes that leaders have the tendency to focus either on relationship-oriented behaviours, task-oriented behaviours or change-oriented behaviours (Avolio & Chan, 2008; Van Breukelen, Schyns, & Le Blanc, 2006). In the same way as trait approaches, the behavioural approaches attempt to develop a universal list of behavioural dimensions that would distinguish effective leaders from ineffective ones (i.e. autocratic, democratic and laissez-faire, employee-oriented and directed) (Hernandez, Eberly, Avolio, & Johnson, 2011). However, researchers found that although some traits and behaviours increase the likelihood of leader effectiveness, they are not relevant in all situations (Yukl, 2002).

### *2.2.3 The situational approach*

The situational approach holds that a leader's success depends on how well the leader's style or personality fits the situation or setting (Bass & Riggio, 2006; House, 1971; Klenke, 1996; Yukl, 2009). It refers to the behaviour of leaders as they attempt to adapt themselves to the variety of perceived conditions and challenges they face (Graeff, 1997). This approach suggests that leadership is a social construct that cannot be fully understood when separated from the context in which it occurs (Yammarino, Dionne, Schriesheim, & Dansereau, 2008). For example, Fiedler (1971, 1976) used trait and behavioural models by asserting that three organisational contingencies determine appropriate leadership behaviour: leader-member relations, task structure, and leader positional power. According to Fiedler, the combinations of these three contingencies

create favourable or unfavourable conditions for leadership; that is, situations in which the leader can exert influence over the group (Mello, 2003). Whereas Fiedler (1976) focuses on the relationship between traits and situational variables, House (1996) focuses on the relationship between leader behaviour and situational variables. Vroom and Yetton (1973) study the role of situational differences as determinants of the choice of a decision process. They developed three contingency models for leader decision-making, and a normative model that emphasises leader behaviour from authoritative to participative.

### *2.2.4 Transactional and transformational leadership*

The concepts of transformational and transactional leadership were first given in-depth treatment by Burns (1978) and then Bass (1985). According to Yukl (1999), these new theories emphasise "emotions and values, which are necessary to understand how a leader can influence followers to make self-sacrifices, commit to ideological objectives, and achieve much more than they initially believed was possible" (p. 33). Burns (1978) makes a fundamental distinction between transformational and transactional leadership. Transformational leaders act as mentors and pay attention to the individual developmental, learning, and achievement needs of each follower. They provide meaning, challenge, a sense of mission and higher vision, gain respect and trust, and act as role models for their followers. Transactional leaders, on the contrary, clarify for their followers their responsibilities, the tasks that must be accomplished, the performance objectives, and the benefits to the self-interests of the followers for compliance. The transactional leader specifies the standards for compliance, and may punish followers for being out of compliance with those standards (Bass & Avolio, 1997). Bass, Avolio and Berson (2003) emphasise that transactional leadership can build a base level of trust in

the leader as he/she clarifies expectations and rewards and reliably executes what has been agreed. Transformational leadership may then build on these initial levels of trust by establishing a deeper sense of identification among followers with respect to the organisation's values and vision.

### *a. The transactional leadership approach*

According to Bass and Avolio (1994) "transactional leadership occurs when one person takes the initiative in making contact with others for the purposes of an exchange of something valued" (p. 12). The leadership literature shows the following features of transactional leadership:

(i) Transactional leadership is understood as a special form of power involving shared intention and purpose among people (Allix, 2000; Rafferty & Griffin, 2004). Transactional leadership implies that leaders are superior to followers and followers depend on leaders. In this way leadership consists of doing something for, to, and on behalf of others. Transactional leadership depends on the leader's power to reinforce subordinates for the successful completion of the bargain. As such, team members are not expected to go beyond their team leaders' initial expectations, nor are they motivated to try out creative solutions to change the status quo (Bass, 1978). Punishment or fear of punishment is used to control the behaviour, and transactional leaders tend to only emphasise the negative when there is a need for punishment (Bass, 1985).

(ii) Followers of transactional leaders do what the leader suggests, because it is in their own best interest (Northouse, 2001). Transactional leaders are influential because it is in the best interest of subordinates for them to do what the leader wants (Avolio & Yammarino, 2002). Transactional leaders lead organisations toward

rewards based on completion of tasks. In transactional leadership, leaders and followers exchange needs and services in order to accomplish independent objectives (Sergiovanni, 1991). For Burns (1978), transactional leaders motivate followers by exchanging with them rewards for services rendered. In a school context, transactional leadership is leadership in which relationships with teachers are based upon an exchange for some valued resource. Miller and Miller (2001) explain that, to the teachers, the interaction between administrators that use transactional leadership and themselves is "usually episodic, short-lived and limited to the exchange transaction" (p.182).

(iii) The role of the transactional leader is to focus upon the key purposes of the organisation and to assist the teachers to recognise what needs to be done in order to reach the desired outcomes (Burns, 1978). The transactional leader tries to obtain agreement from followers on what must be done and what the payoff will be for the people. The transactional leadership, as it relates to schools and schooling, is concerned largely with structures, emphasising organisational purposes rather than people. Transactional leaders minimise the individualised needs of the followers. Transactional leaders focus mainly on school effectiveness which encompasses variables such as teacher behaviours, orderly atmosphere, student achievement, and the quality of school curricula (Bass, 1985).

Leadership scholars (Bass & Avolio, 1994; Burns, 1978; Northouse, 2010) described two forms of transactional leadership: active transactional leadership and passive transactional leadership.

(i) An active transactional leader arranges to actively monitor deviances from standards (i.e. rule violations), mistakes and errors in the follower's assignments and to take corrective action as necessary.

The active transactional leader is an individual who has a personal agenda that is pursued without true concern for the welfare of others (Northouse, 2010). The followers are seen as instrumental or detrimental to the accomplishment of the leader's own goals. Followers do not often trust the leader. They believe that the leader will go beyond permissible bounds to satisfy his/her needs. What distinguishes these leaders is not that they have self-serving personal agendas, but that they can pursue tasks and goals only in a way that reflects a characteristically one-side, narrow view of the world. Their critical shortcoming is an idiosyncratic perspective of the world. They find it impossible to subordinate their goals and agendas to the good of other individuals, the group, or the organisation. They use delegation to serve their own purposes, not to develop followers to higher levels of potential.

(ii) A leader using the passive transactional leadership intervenes only after standards have not been met or problems have arisen. Then, the leader "takes corrective action". Thus, the followers view their job as maintaining the status quo. Transactional leadership tends to be equated with managerial tasks and activities (Richards, 2012). Transactional management skills include: agreeing objectives, communicating information, motivating, bargaining, promoting security, and stabilising (i.e., being fair and consistent with existing arrangements). The passive transactional leader can be equalled to a technical leader: planning, organising, coordinating and scheduling are their main leadership practices (Sergiovanni, 1984). They are focused on "functions, tasks, or behaviours, and that if these functions are carried out competently, the work of others in the organisation will be facilitated" (Northouse, 2010, p. 40). Passive transactional leaders are the supervisors and support of the organisation. They are concerned about "fixing" the system's problems

with solutions bounded by existing paradigms. Heifetz (1994) notes that this kind of leadership is most appropriate when there is a clear problem definition and a routine solution available for authorities to implement, but it does not call for deeply held beliefs about practices and attitudes.

Finally, the inactive leadership or laissez-faire leadership is the avoidance or absence of leadership. It is by definition the most ineffective form of leadership. As opposed to transactional leadership, the laissez faire leader renounces his or her responsibilities, delays decisions, and makes little effort to help followers satisfy their needs (Northouse, 2010).

### *b. The transformational leadership approach*

According to Burns (1978) the transformational leader "engages others by recognising and exploiting their needs and demands in such a way that the authentic exigencies of both, leaders and followers, are satisfied" (p.20). Bass and Avolio (1994) state that "transformational leadership is based on the compliance of followers or the establishment of agreements: it involves shifts in followers' beliefs, values, needs, and capabilities" (p. 12). The result is a collective act, a relationship of mutual stimulation and elevation that converts followers into leaders and may convert leaders into moral agents (Bass & Riggio, 2006; Gunter, 2001). Hallinger and Heck (2003) affirm that the role of transformational leadership is "to help others find and embrace new goals individually and collectively" (p. 222). Transformational leaders reinforce the competencies and skills that keep the organisation competitive. Morality and values are integral to transformational leadership. Transformational leadership is concerned with end-values: liberty, justice, equality. Through transformational leadership, supervisors communicate a vision that motivates employees to

exert extra effort (Bass, 1990). Such leaders also show personalised attention that links individual and collective interests resulting in commitment to the vision (Yukl, 2002). Yukl (1999) states that followers are motivated by transformational leaders to perform beyond the expectations because they trust and respect their leaders. Transformational leaders increase their followers' level of interest, respect the group's obligations and mission, demonstrate qualities which induce respect and pride, become role models, and examine new prospects for solving problems and reaching goals by encouraging followers to find new solutions and propose new ideas (Bass & Bass, 2008).

Researchers (Avolio & Bass, 1995; Bass & Avolio, 1993; Halan, 2004; Tichy & Devanna, 1986) have identified five characteristics of transformational leadership:

(i) Idealised influence refers to strong leaders who have a clear vision and who understand the mission. Leaders with idealised influence are honoured, appreciated, and trusted. Followers admire them, identify with them, and try to imitate them. Followers' expectations are raised to ideal levels of performance and self-motivation.

(ii) Individual consideration is characteristic of leaders who remain aware of the needs and capabilities of their followers. The focus is on the follower, both on and off the job, to enhance their ability to take greater responsibility for their own development and performance. By their behaviour, transformational leaders demonstrate acceptance of individual differences and assign the tasks in accordance with their personal affinities.

(iii) Intellectual stimulation is a feature that transformational leaders employ to encourage followers to look creatively at old processes and problems. The result is re-evaluation of old

assumptions and methods using innovation and a "fresh look" to enhance organisational and individual problem solving.

(iv) Inspirational motivation is the ability to inspire and motivate followers to demonstrate appropriate behaviour. Transformational leaders show enthusiasm and optimism, focus on positive results, and emphasise aims to stimulate followers. They communicate their vision and goals with zeal to inspire the energy to accomplish the mission, and generate the extra effort to accomplish organisational objectives.

(v) Followers are inspired to improve themselves, apply their creativity, and create innovative new solutions that benefit the organisation. These leaders create the environment and encouragement for followers to ignite their own self-generated process improvement or mission-accomplishment strategy.

### *2.2.5 The charismatic leadership approach*

Klein and House (1998) suggest that charisma refers to "specific personal characteristics and behaviours that distinguish leaders who have the potential to ignite a fire of charisma within their subordinates" (pp. 4-5). Charismatic leaders are chosen by followers out of a belief that they are extraordinarily gifted (Crawford, 2002; Pearce & Conger, 2003; Weber, 1947; Yukl, 1993). Moreover, various scholars note the following features of charismatic leaders and leadership:

(i) House (1977) stated that followers of charismatic leaders "model their behaviour, feelings, and cognitions after the leader" (p. 191).

(ii) Conger and Kanungo (1987) suggested that perceived charisma was based on an attribution process, such that followers' perceptions of charisma based on observations of the leader's

behaviour determined whether the person was actually considered a charismatic leader.

(iii) Bass (1985) highlighted the importance of charisma as being an essential, if not dominant quality of transformational leadership. Kark and Van Dijk (2007) promote the idea that followers are likely to adopt their transformational/charismatic leader's positive affects through emotional contagion.

Although the terms charisma and transformational leadership are often used interchangeably, Bass (1985) makes a distinction between them with charisma forming a sub-dimension of transformational leadership (Bass, 1985; Bass & Avolio, 1994). In many ways, transformational leadership transcends charismatic leadership because it is built around the notion that leaders and followers are held together by some higher-level, shared goal or mission rather than personal transaction. While charismatic leaders may not place emphasis on the development of followers and may also feel threatened by followers who become independent, transformational leaders encourage followers to develop self-reliance with the aim of transforming them (Lewis, 1996; Shamir, House, & Arthur, 1993).

### *2.2.6 Authentic leadership approach*

Charismatic leaders influence their followers because of their exceptional characteristics. On the contrary, authentic leaders influence their followers when they adapt their message to the beliefs and values of their followers (Northouse, 2010). The literature (Harter, 2002; Luthans & Avolio, 2003) about authentic leadership stresses five components of authentic leadership:

(i) The authentic leader is self-aware. He/she relates to "one's awareness of, and trust in, one's own personal characteristics, values, motives, feelings, and cognitions" (Northouse, 2010, p. 377). Self-awareness refers to how often the leader demonstrates that he or she is cognizant of his or her impact on other people (Peterson, Walumbwa, Avolio, & Hannah, 2012). According to May, Chan, Hodges and Avolio (2003), "knowing oneself and being true to oneself are essential qualities to authentic leadership" (p. 248). Self-awareness includes being aware of one's strengths and weaknesses as well as understanding one's emotions and personality (George, 2003). Authentic leaders lead with purpose, meaning, and values. Central to his/her end values is a belief that "each individual has something positive to contribute to their group" (Luthans & Avolio, 2003, p. 248). The authentic leader works strategically to engage the school community in a collective and ongoing dialogue on the dilemmas of professional practice and the social problems of the community. Authentic leadership occurs when understanding the value orientations of others provides leaders and the professionals, as well as the community members to whom they are accountable, with information on how they might best influence the practices of others toward the achievement of broadly justifiable social objectives (Begley, 2006).

(ii) The authentic leader behaves authentically. This means acting in accord with one's values, preferences, and needs as opposed to acting merely to please others or to attain rewards or avoid punishments through acting falsely (Kernis, 2003). The authentic leader is transparent and credible. Popper and Lipshitz (2000) note that "transparency is the willingness to hold oneself (and one's actions) open to inspection in order to receive valid feedback" (p. 187). Peterson et al. (2012) maintain that "transparency involves promoting trust through disclosures that include openly sharing information and

expressions of leaders' true thoughts and feelings", (p. 503). In addition, authentic leaders behave authentically to build credibility and win the respect and trust of followers by encouraging diverse viewpoints and building networks of collaborative relationships with followers, and thereby lead in a manner that followers recognise as authentic. Authentic leaders recognise their shortcomings, and work hard to overcome them.

(iii) The authentic leader has a genuine desire to serve the followers. According to George (2003), authentic leaders genuinely desire to serve others through their leadership. Leaders are not authentic unless followers perceive them as such and respond in kind (Walumbwa, Avolio, Gardner, Wernsing, & Peterson, 2008). Authentic leaders are more interested in empowering followers to make a difference than they are in getting power for themselves (Walumbwa, Luthans, Avey, & Oke, 2011).

(iv) The authentic leader leads with optimism, hope and resiliency. They are more likely to be motivated to succeed, to be persistent when an obstacle arises and to welcome a challenge (Luthans & Avolio, 2003). Authentic leaders are able to instil optimism in their followers and inspire them towards action (Garner, Avolio, Luthans, May, & Walumbwa, 2005). Authentic leaders emphasise goals they know can be accomplished, so that their followers trust them and believe in their goals (Northouse, 2010). Optimism refers to the "cognitive process of viewing situations from a positive light and having favourable expectations about the future" (Northouse, 2010, p. 219). Resiliency is the capacity to rebound or bounce back from adversity, uncertainty, failure or conflict. Authentic leaders have the capacity to recover from and adjust to adverse situations during difficult times (Northouse, 2010).

(v) Authentic leadership is about building an authentic relationship between leader and followers. Because people trust them, they are

able to motivate others to high levels of performance. Shamir and Eilam (2005) define authentic leadership as a process that includes not only the authentic leader, but also "encompasses authentic followership, as followers choose to follow the leader for genuine reasons to form an authentic relationship" (p. 398). As Goldman and Kernis (2002) note, relational authenticity involves an "active process of self-disclosure and the development of mutual intimacy and trust so that intimates will see one's true self-aspects, both good and bad" (p. 19). They build enduring relationships with people. The authentic leader "is true to him/her and the exhibited behaviour positively transforms or develops associates into leaders themselves" (Luthans & Avolio, 2003, p. 243).

Thus, authentic leaders act in accordance with deep personal values and convictions to build transparency and credibility. They win the respect and trust of their followers by encouraging diverse viewpoints and building networks of collaborative relationships with them. Finally, they lead in a manner that followers recognise as authentic leadership (Gardner et al. 2005).

### *2.2.7 Distributed leadership approach*

Leadership is viewed as a relational, fluid, multi-directional dimension that can empower followers. Gronn (2000) contends that "leadership needs to be distributed throughout the organisation and not just assigned to fixed positions" (p. 333). Harris (2010) defines distributed leadership as, "the expansion of leadership roles in schools, beyond those in formal leadership or administrative posts" (p. 55). Other definitions of distributed leadership stress trust as a key component. Woods, Bennet, Harvey and Wise (2004) for instance, define distributed leadership as an emergent property of a

group or network of interacting individuals engaged in "concertive action". They seek to create a new organisational culture based on trust rather than regulation, in which leadership is based on knowledge rather than position. Gronn (2000) defines distributed leadership as an "emergent property of one group or a network of interacting individuals" (p. 12). These authors' statements contrast with the concept of leadership taken as a phenomenon arising from an individual (Woods, 2004). Gronn (2000) argues that distributed leadership is a form of concerted action that occurs when people work together and it is the product of conjoint agency. How people perform their task is captured in the concept of conjoint agency, which means that agents synchronise their actions by having regard to their own plans, those of their peers, and their sense of membership (Gronn, 2002). Spillane and Orlina (2005) conclude that a distributed perspective on leadership is a framework for conceptualising and analysing leadership. It is a way to generate insights into how leadership is practiced more or less effectively (Spillane, 2006).

A distributed perspective acknowledges that the work of leading and managing schools involves multiple individuals, not just those with formally designated leadership and management positions, but also individuals without such designations (Spillane, 2006). The virtue of "distributed" is recognition of the centrality of collectively performed activities as the basis of the completion of organisational work, at the heart of which lies relations of interdependence (Gronn, 2002). In the same tenor, Hatcher (2005) maintains that there are two reasons for the relevance of distributed leadership. One has its origins, like transformational leadership itself, in the human relations school of industrial psychology. The argument is that alienation and powerlessness are detrimental to the performance of workers and therefore to economic efficiency. The other reason derives from theories of distributed cognition in knowledge-based organisations (i.e. CHAT). From a distributed

leadership approach, solving complex problems takes knowledge that is "dispersed throughout organisations, and everyone can contribute to the exercise of influence" (Hatcher, 2005, p.254). Distribution of the leadership implies "sharing responsibility for decision-making, for example, within leadership teams, and enabling staff to lead on certain activities, without tight accountability mechanisms" (Harris, 2004, 19).

Scholars have established a relationship between teacher leadership and distributed leadership (Harris, 2005; Mangin, 2007; Smylie et al., 2002; York-Barr & Duke, 2004). Teacher leadership is chiefly concerned with forms of empowerment and agency that are also at the core of distributed leadership (Harris, 2003a). In practice, teacher leadership within a school has become distributed through a variety of roles and responsibilities (Firestone & Martinez, 2007). These responsibilities can be related to both management and pedagogical activities; for example, heads of departments, subject co-ordinators, key stage co-ordinators and the informal leadership roles that include coaching, leading a new team and setting up action research groups (Harris, 2007). These roles are intended to improve teaching practice and ultimately, increase student-learning (Harris, 2003b).

Although there is a growing body of literature that focuses on science teacher leaders, with the exception of some recent studies reviewed by Ritchie (2012), very few studies have been conducted within high school science departments from a distributed perspective. More notably, there has been an expressed lack of attention and research examining the use and application of concepts from CHAT to understand the generation of new leadership practice (Robinson, 2008). For this reason, my research aimed to use the component or elements of CHAT to investigate the relationship between school leadership and organisational change. The definition and components of CHAT are described in section 2.4.

### *2.2.8 Instructional leadership approach*

Instructional leadership has been defined as an approach to leadership that emphasises the behaviours of teachers as they engage in activities affecting directly the growth of students (Leithwood, Jantzi, & Steinbach, 1999). Instructional leaders lead through a combination of expertise and charisma. A review of the extant literature on instructional leadership shows that the sources of instructional leadership can be identified as follows:

(i) Focus on principalship. Early proponents of instructional leadership in the 1980s emphasised the principal's role in setting the contextual conditions necessary for school change (Edmonds, 1979). Principalship is also about school leaders encouraging all stakeholders involved in teaching and learning to work hard to achieve school goals (Drake & Roe 1986). Instructional leadership seeks to attract the principal's attention to issues such as educational standards, teachers' professional development, school goals and values and the principal's role in helping the teachers (Cuban, 1988). In this sense, the instructional leadership approach expanded conventional leadership and management responsibilities and practices (Howe, 1994).

(ii) Focus on teacher leadership. In the early 1990s scholars propounded the idea of distributed instructional leadership involving more teachers in schools (Hallinger & Heck 1996; Hart, 1995). Such efforts brought greater acknowledgment of teachers' capacities to contribute to educational reforms (Heller & Firestone, 1995). Teachers assumed leadership roles such as mentor, master and lead teacher. Teacher leadership is premised upon power redistribution within the school, moving from hierarchical control to peer control. In this

leadership, the power base is diffused and the authority dispersed within the teaching community (Harris, 2003b).

(iii) Focus on shared leadership. Both the school principal and the teachers are believed to exert instructional leadership. Researchers highlight the suitability of conceptualising instructional leadership as a role to be shared by the principal with others (Marks & Printy, 2004).

Some scholars have argued for instructional leaders to focus more on the strategic issues affecting the school project instead of operational activities (i.e. administrative chores) which are remotely related to teaching and learning (Horng & Loeb, 2010; Sheppard, 1996). These strategic issues comprise activities that enhance a school's capacity for transformation (Cardno 2006). Thus, school leaders should focus on formulating the school vision and setting clear goals (Yukl, 2002). The major approaches to leadership are summarised in Figure 2.1.

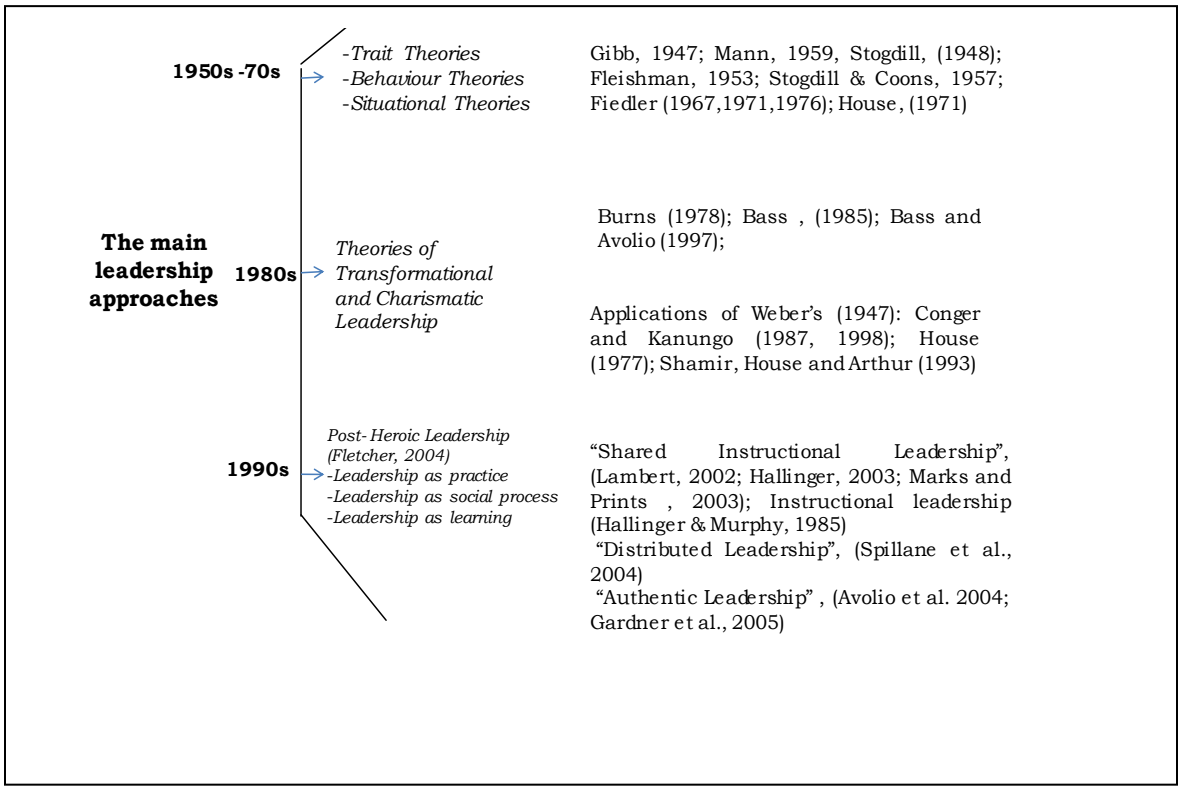


***Figure 2.1*** **Overview of the main school leadership approaches**

Figure 2.1 highlights two major changes in leadership practices: source of influence and leader-follower relationship. Leadership practices have been trending away from individualistic leadership perspectives (trait, behavioural, situational and charismatic leadership) towards more collaborative leadership practices (i.e. transformational, authentic, shared instructional and distributed leadership). According to Gronn (2000), the main drawback of the individualistic perspectives of leadership has been "the value attached to the concentration of influence in individual leaders" (p. 426). Yukl (1999) sustains that "followers have switched off in circumstances which are ill-conducive to vision-bearing, larger-than life individuals, for a vision that is usually the product of a collective effort, not the creation of a single, exceptional leader" (p. 298).

Figure 2.1 also shows a move from hierarchical leadership approaches to more participative and shared forms of leaderships which have empowered the individuals within the communities (i.e. shared instructional teacher leadership). Thus, the field of leadership has progressed from a sole focus on the traits, behaviours and charisma of the individual leader to an increased emphasis on leadership as an ethical and emotional process (authentic leadership). In addition, current trends in leadership practices have focused on more qualitative aspects of the leader-follower relationships in complex organisations. Recently, attempts have been made to address the issues of diversity (Ross & Berger 2009); gender (Rivers-Wrushen & Sherman 2008) and emotions (Beatty & Brew 2004; Morrison & Ecclestone, 2011) within the leadership field.

The overview of leadership approaches presented in this section of the literature review is by no means envisaged as an exhaustive compendium on scholarship in this arena. Many other approaches such as

transcendental or spiritual (Reave, 2005; Rebore & Walmsley, 2009), ethical (Brown & Treviño, 2006; Eisenbeiss, 2012), servant (Van Dierendonck, 2011; Wallace, 2007), moral (Fullan 2002) and sustainable (Hargreaves & Fink 2006) leadership practices have been left out. This brief review is intended as a platform from which to initiate the examination of leadership practices inside the school departments which are the focus of this study. In the next section, I examine basic concepts and principles of activity theory based on the main works of Vygotsky, Leont'ev and Engeström (1987). Then, I present some examples of how CHAT has been applied to the study of educational settings.

## *2.3* CHAT as a theoretical framework for analysing leadership practices

Contemporary CHAT originated primarily from the work of Lev Vygotsky and the Russian activity theorists (i.e. Leont'ev and Luria). They take the activity system as its fundamental unit of analysis (Roth & Lee, 2007). Since leadership can be defined as an influence process (Hallinger, 2005), CHAT provides a structure to investigate how leadership practices are embedded within a network of influences (e.g. activity systems). It also enables the study of how leaders exert influence using historically developed artefacts to achieve educational outcomes (Daniels, 2004).

### *2.3.1 Genesis of CHAT*

CHAT has evolved through three generations of research (Daniels, 2004; Engeström, 1987, 2001); namely, first, second and third generation.

*The first generation* is centred on Vygotsky's concept of mediated action: the fact that humans' interactions with their environment are not direct ones but are instead mediated through the use of artefacts (Fleer, 2010). Vygotsky's idea of cultural mediation of actions is expressed as the triad of

subject, object, and mediating artefact (Daniel, 2006). However, the limitation of the first generation CHAT was that analysis focused solely on the individual.

*The second generation* is built around Leontiev's concept of activity, in which the unit of analysis is expanded from individual mediated action to a collective activity system. More specifically, Leontiev (1978) argues, "activity is the minimal meaningful context for understanding individual actions" (p. 10). Thus, the activity of individual people depends on "their social position, the conditions that fall to their lot, and an accumulation of idiosyncratic, individual factors". Leontiev, (1978) maintains that "the concept of activity is necessarily connected with the concept of motive" (p. 62). Leont'ev (1978) states that "the main thing that distinguishes one activity from another lies in the difference between their objects, it is the object of the activity that endows it with a certain orientation" (p. 22).

*The third generation* of CHAT further expands the unit of analysis to encompass relations between multiple activity systems. Engeström recasts Vygotsky's elements of stimulus, artefacts and response as subjects and objects, respectively, and expands this model of mediated action in an effort to depict the complex social systems shaping these actions. He characterises the expansion of the unit of analysis from a single activity system to two or more interconnected activity systems. To do so, he adds three additional elements: rules, community and division of labour. Third generation of CHAT provides a model for analysis of two (or more) activity systems and looks for meaning within the individual systems and at the point where they intersect. Researchers who adopt third generation of CHAT seek to analyse human action across many activity systems, to ascertain the role of dialogue, multiple perspectives and issues of power when dealing with interacting activity systems as networks (Roth & Lee, 2007).

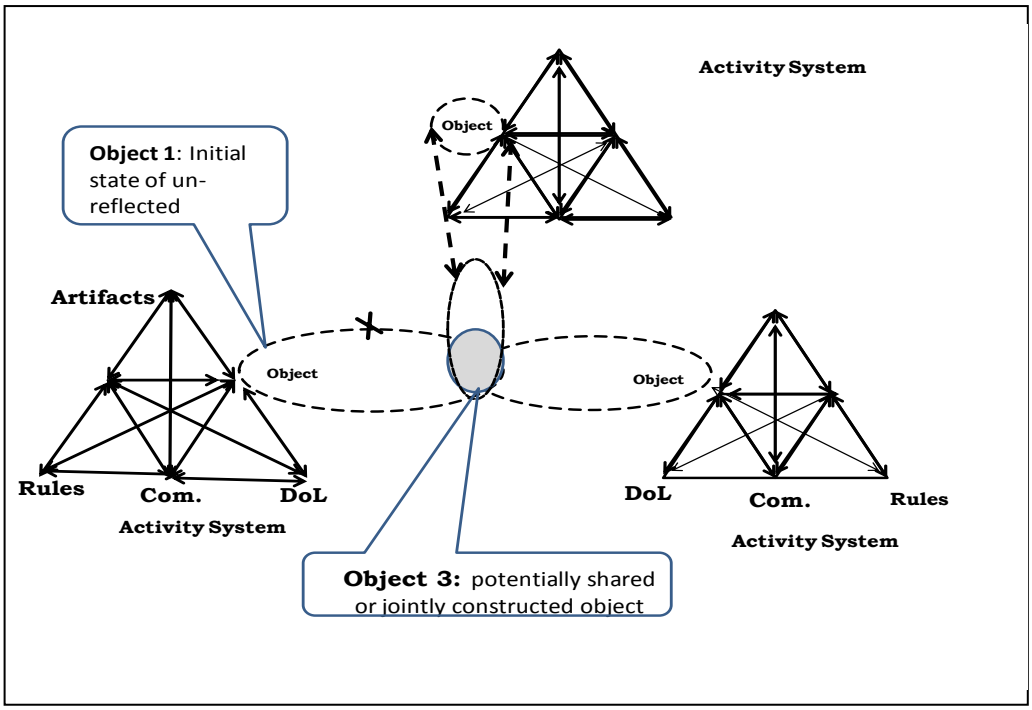



***Figure 2.2*** **Three activity system and a potentially shared object (Engeström, 2001)**

Figure 2.2 illustrates the third generation of CHAT. It shows the relationship of three interconnected activity systems. The point of intersection of the three activity systems is the potentially shared or jointly constructed object of the activity. Each activity system has its own object that interacts with the shared object.

### 2.3.2 The seven components of an activity system

Figure 2.3 portrays a pictorial representation of a generic activity system as conceptualised by Engeström (1987).

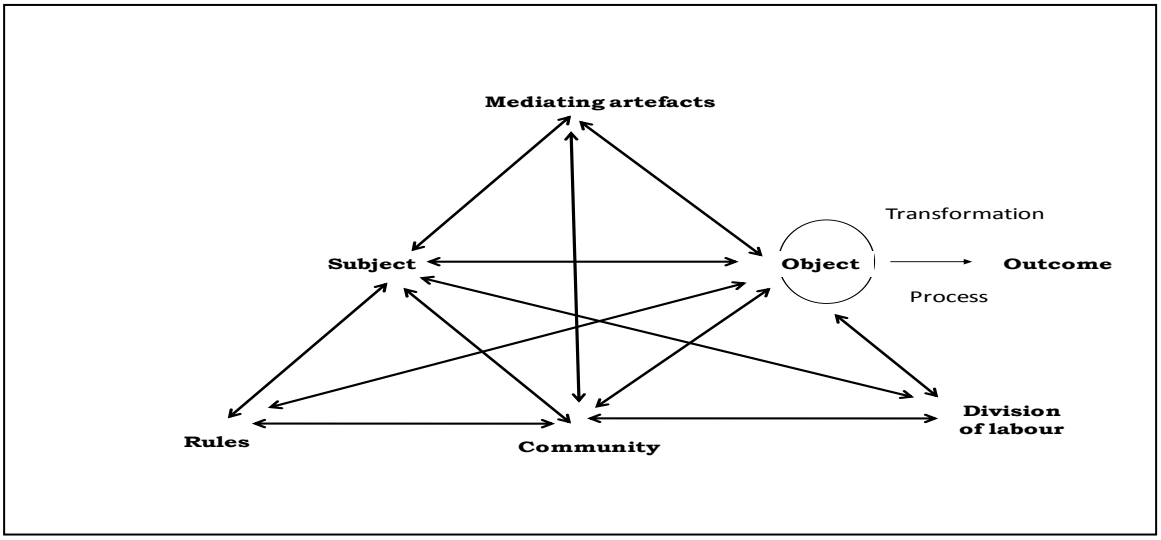



***Figure 2.3*** **General model of an activity system (Engeström, 1987, p.78)**

It shows how the relations between the subject and object are not direct; rather, they are mediated by various components, including artefacts, rules, community, and division of labour. The arrows between the components indicate that they are not static components existing in isolation from each other, but are dynamic and continuously interacting with the other components through which they define the activity system as a whole (Gronn, 2002). The model suggests the possibility of analysing a multitude of relations within the triangular structure of activity. The upper part of the triangle represents individuals and collective actions embedded in an activity system. The lower part refers to the division of labour between members of the community and the rules that govern the activity itself. The oval representations of the object are used to indicate that the object-orientated actions are characterised by interpretation and potential for change (Engeström, 2001; Leontiev, 1981). I explain each of these components herein.

### *Activity*

An activity is defined as a form of doing directed to an object (Kuutti, 1996). Activity is the unit of analysis for the explanation of the very possibility of the relation of subject and object (Engeström, 2009). According to CHAT, the main components of the activity are subject, artefacts, object, community, rules, division of labour, and outcome (Engeström, 1987). Leontiev (1981) defines activity as:

> … the unit of life that is mediated by mental reflection. The real function of this unit is to orient the subjects in the world of objects. In other words, activity is not a reaction or aggregate of reactions, but a system with its own structure, its own internal transformations, and its own development (p. 46).

Thus, when discussing activity, CHAT theorists are not simply concerned with "doing" as an ethereal action, but are referring to "doing in order to transform something," with the focus on the contextualised activity of the system as a whole (Barab et al., 2002; Kuutti, 1996).

### *Activity system*

An activity system is any ongoing, object-directed, historically-conditioned, dialectically-structured, artefact-mediated human interaction (Boreham & Morgan, 2004). This human interaction considers the participation of a subject on an object using artefacts, mediated by the community, rules and division of labour of the activity. According to Engeström (1995), "an activity system produces large numbers of actions, many of which are repeated with little variation and over time, become automatic operations, routines that are taken for granted" (p. 410).

### *Action*

An action is a relatively discrete segment of behaviour oriented towards a goal. An activity is realised through concrete actions, which are directed toward goals that are framed by individuals (Roth & Lee, 2007). A transition from action to activity is considered "when subjects become aware of the contradictions in their current activity compared to a new form of activity" (Sannino et al., 2009, p. XII)

### *Subject*

The subject refers to individuals or teams who share the same object or purpose for engaging in activity. The identities of the subjects, the object of their actions and their artefacts-in-use are historically reconstructed over a period of time (Russel, 1997). Social participation and interrelations within the activity are not fixed and can change dynamically as social and cultural conditions change (Engeström & Miettinen, 1999). For this reason, activity theory is called a cultural-historical activity theory, CHAT (Engeström, 1999).

### *Object*

The collective object is the motive and direction of the activity (Engeström, 2000a). All the subjects participate in transforming the activity system's object in response to some motive or desire (Sawchuk, 2003). "The object acts as pivot for meaning. The meaning as signified in the object dominates and determinates the behaviour" (Fleer, 2010, p. 13). Leontiev (1981, 1978) explains how the direction and motive are founded in the object:

> Object is usually used in double sense. In the broadest sense as a thing having existence, and in narrower sense as something withstanding resistant. Object is that to which an act is directed, i.e., as something to which a living creature relates

> itself as the object of its activity. We shall employ the term object precisely in this narrower, special sense (1981, p. 36)
>
> The main thing which distinguishes one activity from another is the difference of their objects. It is exactly the object of an activity that gives it a determined direction. According to the terminology I have proposed, the object of the activity is its true motive (1978, p. 62).
>
> Behind the object, there always stands a need or a desire to which [the activity] always answers (1978, p. 22).

Leontiev's (1978) main point is that "motives are best understood at the level of a collective, culturally and socially mediated system of activity" (Miettinen, 2001, p. 304). However, the collective object of the activity should not be confused with the goal of individual actions: In CHAT view, the object is defined as a "horizon of possibility", an "end-of-view", rather than as a stable condition or entity (Engeström, 2000a; Miettinen, 2001; Virkkunen & Kuutti, 2000). Engeström and Escalante (1996) state in this regard:

> The object should not be confused with a conscious goal or aim. In activity theory, conscious goals are related to discrete, finite, and individual actions; objects are related to continuous, collective activity systems and their motives … (p. 360)

CHAT theorists have defined the object as a contradictory unity of use value and exchange value. Engeström (1987) explains how the school text can be a contradictory object itself:

> … the object to be reproduced for the purpose of gaining grades … cumulatively determines the future value of the pupil himself in the labour market *[exchange value]*. On the other hand, school texts also appear as a living instrument of mastering one's own relation to society outside the school [use value]. (p. 102)

From a CHAT perspective, the idea of object as motive is useful because it helps recognise that the way that subjects interpret an object will shape the way that they respond to it. As Leontiev (1978) states, "It is evident that the activity of every individual man depends on his place in society, on the conditions that are his lot, and on how this lot is worked out in

unique, individual circumstances" (p. 10). Likewise, Edwards (2011) notes that the subjects' interpretation of the object will be shaped by the social practices of the situations in which objects of activity are located. In fact, each individual taking part in a common activity has a slightly different view and interpretation of the object and purpose of the activity depending on the individual's position in the division of labour, his or her history in the activity, training and experience (Warmington et al., 2006). There are many competing and partly conflicting views (Engeström, 1987; Virkkunen & Kuutti, 2000) or perspectives (Engeström, 2000a) of the object. Engeström (1987) proposes that both the object and the activity system are not simply to be explored by psychologists, but are systems open to change and constant reinterpretation by participants.

From a research perspective, the concept of the object of activity is a promising analytical tool providing the possibility of understanding not only what people "are doing, but also why they are doing it" (Kaptelinin, 2005, p.5). As Engeström (1995) has pointed out:

> Neither approach is able to account for what makes people act and form goals in the first place, what creates the horizon of possible actions, what makes people strive for something beyond the immediately obvious goal or situation. What is excluded is objects and thus motives of activity—the long-term "*why*?" of actions. Without this level, theories of situated cognition run the risk of becoming merely technical theories of "*how*?"—more elaborated and flexible than mentalist and rationalist models, but equally sterile when faced with societal change and institutional contradictions that pervade everyday actions (pp. 410-41)

Thus, an activity system is always organised around an object of activity. Object is the component which distinguishes one activity from another. Activity begins only when the image of an object or event capable of satisfying needs appears. The object of the activity is its true motive. Values at work are embedded in the object of the activity. Negotiations of objects are always also negotiations of values and motives (Engeström, 2006).

CHAT theorists define the implementation of a new object as expansive learning. Expansive learning is above all stepwise expansion of the object (Edwards, 2009). In expansive learning, learners learn to construct a new object for their collective activity, and implement this new object in practice:

> The formation of an expanded object and corresponding new pattern of activity requires and brings about collective and distributed agency, questioning and breaking away from the constraints of the existing activity and embarking on a journey across the uncharted terrain of the zone of proximal development. (Engeström, 1996)

Expansive learning leads to the formation of a new, expanded object and pattern of activity (e.g. division of labour, rules and artefacts) oriented to the object (Engeström & Sannino, 2010). The expanded object in turn, works back on the artefacts and other components (rules, division of labour and so on) in the system or related systems, and reshapes them (Edwards, 2009).

### *Artefacts*

Activity systems are mutually reconstructed by participants historically using artefacts. Artefacts are means to mobilise participants for the purpose of improving collaborative activity and instructional processes Halverson (2006). Artefacts possess a mediation function (Bedny, Seglin, & Meister, 2000) and are determined according to the local and historical context (Virkkunen & Kuutti, 2000). Artefacts are material things with meaning established only in and through the activity of individuals in social practice (Blunden, 2007). Artefact-mediated construction implies a collaborative process in which different perspectives and voices meet, collide, and merge (Engeström, 1999). From a distributed perspective of leadership, Spillane et al. (2004) note that "leadership practice is situated in an environment composed of artefacts that represent, in reified forms,

the achievements and problem-solving initiatives of previous human action" (p. 23). Recent research shows that school leaders use artefacts to enhance school-community relations (Halverson, 2004) and trust among the teachers (Halverson, 2006). With the help of artefacts, people change the external environment and surrounding objects (Bedny et al., 2000). Artefacts define rules and trace boundaries (Rock, 1998) within the activity systems.

***Outcomes***

The object goes through multiple transformations involving subjects and their experiences, artefacts and the activity at hand until it stabilises as a finished outcome. Desired outcomes are the generation of new practices, the formation of new communities, new artefacts and so on. To achieve these outcomes requires the subjects to work collaboratively to resolve the systemic contradictions that can emerge in the process of transformation of the object. These outcomes can encourage or hinder the subject's participation in future activities (Engeström, 1987).

***Rules***

Rules provide direction so that a subject can participate effectively as a member of a community. Rules act as a system of communication to participants concerning the expectations of the administration (Stryker, 1994). In this sense, rules establish the procedures and acceptable interactions to engage in and with other community members (Engeström, 1993, 2007). Mills and Murgatroid (1991) refer to the configuration of implicit and explicit rules as "phenomena whose basic characteristic is that of generally controlling, constraining, guiding and defining social action" (pp. 3-4). Rules are object-oriented, practical, and to a large extent embodied in material artefacts. From a CHAT perspective rules symbolise power and constraint. Rules include agreements among the members of

the community as to who is doing what, at what point of time, and in what order. In line with this, Mills and Murgatroyd (1991) propose that rules are resources intimately intertwined with the communicative practices subjects use for making sense of established social orders. Rules can take the form of being explicit or implicit:

(i) Explicit rules are publicly accepted regulations which are written and established through formal procedures (e.g. educational policies, guidelines).

(ii) Implicit rules are informal regulations that in varying degrees can affect how an activity takes place (e.g. rules which stipulate how the school department solves problems, and who is in charge of the discussions). The first function that both implicit and explicit rules perform is guiding the actions of the subjects to achieve the object of the activity.

The rules can regulate the temporal rhythms of work, the uses of resources and the codes of conduct (Engeström, 1987). Temporal rhythms of work refer to the alignment and coordination of the teachers' activities in order to achieve their object. The temporal rhythms of work punctuate the continuous flow of activities with periodically recurring events and thereby offer ways of condensing individual activities, which exhibit some regularity and predictability (Anderson, 1966, 1968). The codes of conduct represent default assumptions about behaviours and define the restrictive and prescriptive area of consensus inside the department. They delineate the limits within which changes can take place freely, deliberately and without social cost. Violation of codes of conduct frequently leads to a drop in valuation, trust and authority (Adler & Borys, 1996).

### *Community*

Community refers to the social group that each subject belongs to while engaged in an activity. A community is an activity system of multiple points of view, traditions and interests. Community also depicts the physical environment as the context in which activity is carried out (Mwanza, Engeström, & Amon, 2009). In this study, math teachers, social science teachers and science teachers are members of the community within their school departments.

### *Division of labour*

Within the community, the subjects continuously negotiate their division of labour. Division of labour means that the actions of each individual "only make sense in the context of the collective activity of the inter-dependent participants" (Hatcher, 2005, p. 256). Division of labour refers to the ways in which a community is organised with respect to the transformation of an object into outcomes (Engeström, 1987). Divisions of labour can run horizontally as tasks are spread across members of the community with equal status, and vertically as tasks are distributed up and down divisions of power (Barab, Barnett, Yamagatta-Lynch, Squire, & Keating, 2002; Daniel, Leadbetter, Soares, & MacNab, 2007).

## *2.3.3 Systemic contradictions and disturbances*

From a CHAT perspective, the object gives coherence and continuity to actions. Because the object is internally contradictory (there are different perspectives about it), it also keeps the activity system in constant instability. Two manifestations of this instability are the contradictions and disturbances.

### *a. Systemic contradictions*

Activity systems are characterised by their internal contradictions (Engeström, 1987). From a CHAT perspective, contradictions are not the same as problems or conflicts. Kuutti (1996) explains how contradictions are used analytically within the CHAT framework:

> CHAT uses the term contradiction to indicate a misfit within elements, between them, between different activities, or between different developmental phases of a single activity. Contradictions manifest themselves as problems, ruptures, breakdowns, and clashes. CHAT sees contradiction as sources of development; activities are virtually always in the process of working through contradictions (p. 92)

Contradictions are historically accumulating structural tensions within and between activity systems (Sannino, 2008). Contradictions can occur within elements of an activity system (e.g. within the object), between the elements (e.g. between the object and the rules), and between different activity systems. The meaning and use of this concept of contradiction for education purposes is that learning emerges as a result of solving the contradiction. As Engeström (2000a) indicates:

> The identification of contradictions in an activity system helps practitioners and administrators to focus their efforts on the root causes of problems. Such collaborative analysis and modelling is a crucial precondition for the creation of a shared vision for the expansive solution of the contradictions (p. 966).

Engeström (1987) identifies four levels of contradictions, which are summarised in figure 2.4. *Primary contradictions* refer to inner contradictions within each constituent component of the central activity system (i.e. rules, artefacts, division of labour). "This primary contradiction pervades all elements of our activity systems" (Engeström, 2001, p. 137).

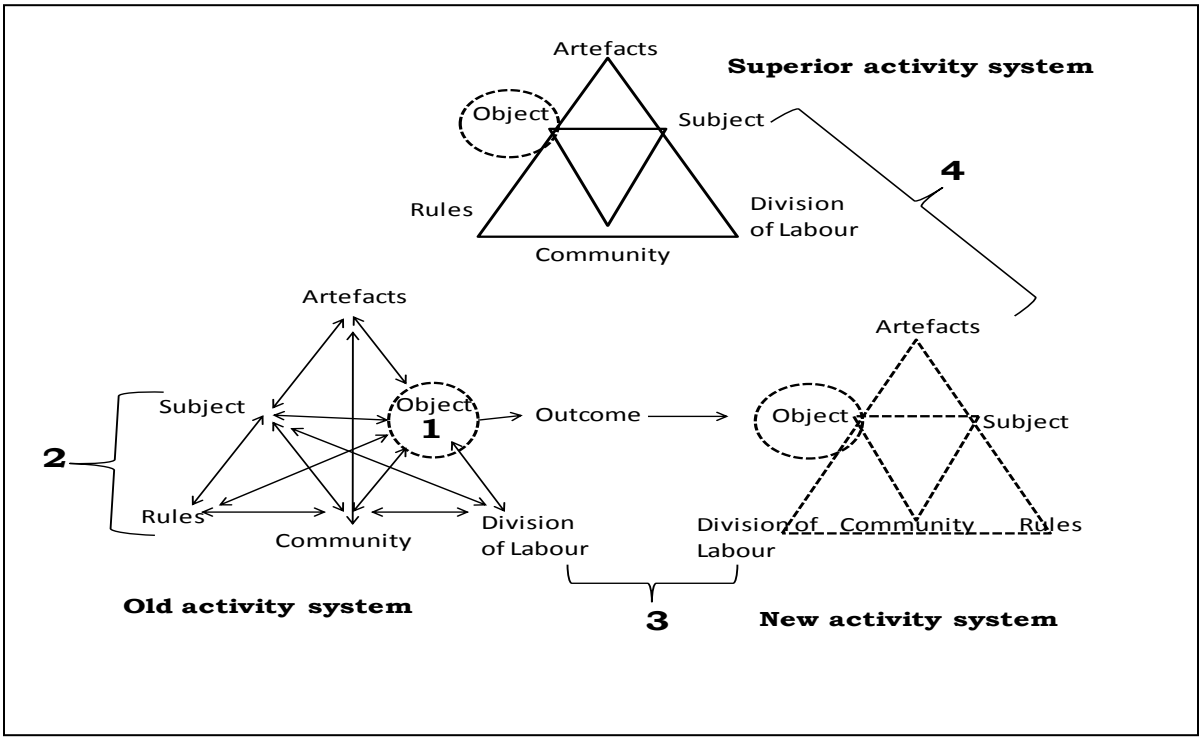



**Figure 2.4 Four levels of contradictions (Engeström, 2001)**

*Secondary contradiction* takes place between the constituents of the central activity (i.e. rules, artefacts, division of labour). Activity theorists highlight that the primary contradictions evolve taking the form of secondary and tertiary contradictions that contribute to the instability of the system.

*Tertiary contradictions* occur when the designed or given new model is gradually replaced by another new one, firmly grounded in practice through the resolving of the contradictions between the given new and the existing forms of the activity.

*Quaternary contradictions* occur when activity participants encounter changes to an activity that result in creating conflicts with adjacent activities. The following table shows how Yamagata-Lynch and

Haudenschild (2009) identified the four levels of contradictions in their research.

***Table 2.1***
***Examples of systematic contradictions (Yamagata-Lynch, & Haudenschild, 2009)***

| Contradiction level | Example |
|---|---|
| Primary contradiction | Individual teachers, school districts and universities do not share a common value system on how to spend time and money professionally. |
| Secondary contradiction | School districts and universities do not account for new responsibilities introduced to teachers from sustained and intensive professional development programs that bring hardship to meet other daily teaching responsibilities. |
| Tertiary contradiction | New methods for teaching introduced in professional development programs do not necessarily fit into teachers' daily classroom practices |
| Quaternary contradiction | One area of change to teachers' daily classroom practice interacts with other activities in the classroom and necessitates more change. |

Yamagata-Lynch and Haudenschild (2009) studied the teacher perspectives on the situational factors that influence their professional development. They used Engeström's four levels of systemic contradiction to document and analyse the challenges teachers found in their activities.

### *b.* ***Disturbances***

Disturbances are deviations in the observable flow of interaction in the ongoing activity (Engeström & Mazocco, 1994). Disturbances are decisive indications of systemic contradiction (Warmington et al., 2006). Norros's analysis (1996) of the disturbances that arise as a result of the implementation of the new technologies in work processes argues that:

> Disturbances have a double nature. On the one hand, they are threats to the proper functioning of the system, and on the other hand, they include the possibility to develop the system. As this possibility must and can be exploited by the users, it is also the opportunity for the users to construct their expertise (p. 160)

Engeström (1996a) in his analysis conducted in municipal courts stresses the importance of solving disturbance as dynamic possibilities of learning, change and development. According to Cole and Engeström (1993), "activity systems are best viewed as complex formations in which equilibrium is an exception and disturbances are the rule and the engine of change" (p. 8). According to CHAT, disturbances relate to personal and interpersonal crises and affect individual short-time actions. Disturbances appear in the form of:

(i) Errors or mistakes. They are essentially unintended deviations from rules or procedures: Rule violations when the subjects attempt to go beyond the standard procedure in order to achieve something more than the routine outcome (Engeström, 1992).

(ii) Disagreements, conflicts, misunderstandings, rupture of communication. Disagreements are social interaction processes in which views and behaviours diverge (or apparently diverge), or are perceived to be some degree incompatible. Conflicts can be an event whereby individuals or groups clash, in which divergent beliefs and actions are exposed. They can be taken also as processes whereby individuals or groups come to sense that there is a difference, problem, or dilemma and thus begin to identify the nature of their differences, beliefs or actions. Conflict occurs when "an individual or a group feels negatively affected by another individual or group, for example because of a perceived divergence of interests, or because of another's incompatible behaviour" (De Dreu & Van de Vliert, 1997, p. 1).

(iii) Critics in public. They are wrong or unfair accusations, gossips or complaints. Public criticisms may be motivated by a lack of trust where "those who had little or no trust in the state system would no doubt be able to identify exactly what they considered to be the shortcomings of the service provided" (Frowe, 2005, p. 36). Bies and Tripp (1996) present a partial list of actions that are often considered a violation of trust, including "changing of the rules after the fact, breach of contract, broken promises, lying, stealing of ideas, wrong or unfair accusations and disclosure of secrets (quoted by Elangovan & Shapiro, 1998, p. 549).

### *2.3.4 Research on CHAT in educational settings*

Writing about the characteristics of CHAT as activity theory, Bakhurst (2009) notes how CHAT can be a suitable theory to study educational issues:

> The fact is that the model seems to work particularly well for the sorts of activity systems that activity theorists typically study: health care, work settings, some educational contexts; that is, where you have a reasonably well-defined object, a pretty good sense of desirable outcomes, a self-identifying set of subjects, a good sense of what might count as an instrument or tool, etc. (p. 206)

CHAT has been used to describe transformations in educational contexts. Roth and Lee (2007) have explained the increase of studies using CHAT in educational setting "because it has shown to be fruitful for both analysing data recorded in real classrooms and designing change when trouble and contradictions become evident in these cultural settings" (p. 188). Because this research used Cultural-Historical Activity Theory (CHAT) as a lens for looking at leadership practices inside the school departments, it is important to situate CHAT within existing studies that have incorporated a similar framework in educational settings. An overview of those studies is presented in this section.

Engeström et al. (2002a) conducted a longitudinal intervention study at the Jakomäki middle school in Helsinki, Finland in 1998/1999. The researchers were concerned with the transformation of problematic student and teacher practices in a middle school. The study used the conceptual tools of CHAT to discuss and analyse the teachers' daily practices. The study focused mainly on the design of a single artefact: the final project for 9th grade students about to finish their middle school. The final project was a cross-subject project on any relevant topic chosen by the students. The researchers identified as a main source of trouble, the notion of student apathy. This problem was central in the discourse of the teachers. Based on the historical roots of the current troubles of the school, the researchers modelled the activity system and the inner contradictions. The development of this new artefact revealed two latent contradictions. The first contradiction was manifested within the object, in the teachers' repeated discourse that refers to the students as apathetic. The second latent contradiction within the artefact was manifested in the teachers' repeated discourse about the need to control students' conduct and in occasional statements suggesting that the students should be trusted. Three findings emerged: (1) the teachers worked collaboratively to solve their contradictions through the creation of new artefacts and new practices, (2) the artefact design violated three constraints of the school: social-spatial structure of encapsulation, the temporal structure of punctuation and the motivation and ethical structure of success, and (3) from a CHAT point of view, the final project may be seen as a small, but potentially expansive change capsule. Engeström et al. (2002a) identifies how the expansive learning was possible because of the redefinition of the object during the discussion sessions of the teachers. The lesson is that a collective re-conceptualisation of the object of the teachers' activity system is possible.

In a subsequent study carried out three years later, Engeström et al. (2002b) continued and extended the intervention conducted in Jakomäki middle school in Helsinki. In the first intervention, the researchers found that the teachers "cherished a stubborn collective myth of their students as 'apathetic' beings who could not be trusted" (p. 2). Because the school was characterised by a narrow collaboration between teacher and students, the teachers were very willing to design and try out new forms of practice. A key question was: Can the teachers collectively create a sustained movement that turns available information and communication technology artefacts into locally grounded objects of serious pedagogical change? In other words, the researchers focused on identifying how the teachers collectively built the object of their practice. Engeström et al. (2002b) used the Laboratory sessions to involve the teachers in the design and implementation of a new school curriculum. The study found: The teachers anchored their change efforts along two dimensions of the object: 'upward' in a long-term general vision and 'downward' in classroom practices. Artefacts were subordinate to a pedagogical object. The pedagogical object became a true motive for the teachers. The expansion of the object was accompanied by equally expansive practical actions in classrooms. The pulsating transitions between these different contexts of action were of crucial importance for the accomplishment of sustainable innovation from below in the school community.

Feldman and Weiss (2010) utilise third-generation of CHAT to study teachers engaged in collaborative action research around the implementation of a new form of instructional technology in their classrooms (e.g. digital photography). The innovation was part of a project, designed so that the teachers' implementation of imaging technology would constitute at least one cycle of action research. This study was carried out in the United Kingdom and its general purpose was to understand how the collaborative action research can affect the teachers' identities. Feldman

and Weiss (2010) employ the third generation CHAT constructs to contextualise the experience of the teachers when implementing the innovation. They identified the inherent contradictions between the two systems: teachers taking on the role of teachers and researchers where they expected changes in the teachers' identities (the action research facilitators were Feldman and Weiss). They found contradictions in the activity system in which they were the subjects. Specifically, they dealt with a primary contradiction between them and their object (e.g. change teachers' identity). Then, they identified contradictions between the object of the teachers and their own object. Feldman and Weiss (2010) conclude that as a consequence of the interaction with the researcher, the teachers solved the contradictions by creating a new object which changed the teachers' sense of self.

Venkat and Adler (2008) studied two British high schools in the context of the implementation of a new policy seeking to transform standards in the early years of secondary school. They studied two math departments in the early stages of their interaction with the innovation. Venkat and Adler identified two activity systems: the activity system structured by the policy-training meetings, and the activity system formed by the math departments. The interaction with the new policy created the opportunity to expand the foci of the methods of CHAT. Using in-depth interviews, Venkat and Adler used the concepts of boundaries, boundary objects and boundary crossing to theorise and explain the process of policy implementation. They found that the differing models of departmental practice prior to policy implementation were critical parts of the activity systems. Thus, they were the focus of the actions of the local consultants.

In a New Zealand study, Bourke and McGee (2012) used second generation of CHAT to analyse the complexity of a three-year cultural innovation

process. Their innovation had the purpose of promoting bicultural knowledge and practices at individual (e.g. teachers) and organisational levels (e.g. schools). Bourke and McGee (2012) examined the work of several Maori in-service teachers that supported the teachers and school communities to implement the changes. The authors used CHAT to identify one single activity system that included the interaction between the in-serviced teachers and the other teachers. They analysed how the change in the governmental priorities (e.g. curriculum change) and the economic context destabilised the cultural innovation. In practice, the external factors resulted in decreased funding for in-service teacher education which in turn meant crucial resources and personnel were diverted. The analysis showed how the clarification of the object of the innovation, the collaborative building of rules and division of labour, were critical features to support change. They concluded that when rules did not provide sufficient support for the innovation, they disrupted the momentum for change, resulting in the destabilisation of the whole system; but when the rules were adapted to support change, they became a strong platform for change.

The study by Saka et al. (2009) in the United States was focused on the negotiating processes between two novice science teachers (e.g. Bob and Nathan) and their school communities. The researchers employed CHAT to analyse the transformation of the novice teachers into competent members of the community. Nathan selected a more individualistic school culture, urban high school with a limited interaction across the disciplines, whereas Bob accepted a position in a collaborative suburban middle school context with a strong sense of community that empowered teachers. The study found how the different school contexts had contrasting influences on the two novice teachers. Saka et al. (2009) found that the modest nature of the contradictions that Bob experienced in his new activity system allowed him to accomplish teaching effectiveness and “he

gradually became recognised as a competent member of his department" (p. 1018). Bob's sense of ownership of the school curricula increased. Bob began to think of himself as a successful science teacher and he was recognised as such. Yet, the aggravated set of contradictions in Nathan's activity system restricted his chances to influence and to participate in the school community. He was given limited opportunities to contribute and to take part in the activity system, which not only hindered Nathan's primary object (making a difference in the school), but also prevented him "from feeling that he belonged at the school" (p. 1020).

Research by Beswick et al. (2010) gives evidence of how school departments can be analysed using an activity system approach. The researchers compared the affordances of two different theoretical frames to describe the work of three secondary math school departments in England: CHAT versus complexity theory. Using CHAT as a theoretical framework allowed the researchers to identify differences in the interpretation of the object of the departments and their consequences on teachers' marginalisation. They identified four kinds of marginalisation: self-marginalisation (i.e. teachers who refuse to change), institutional marginalisation (i.e. teachers who have a different interpretation of the objects and artefacts because of conflicting priorities), ideological marginalisation (i.e. teachers disagree with the prevailing values and policies, but nevertheless continue to work in accordance with the department) and epistemological marginalisation (i.e. teachers who have trouble understanding department discussions).

From these examples, several conclusions may be drawn. First, school departments can be studied as activity systems where the object is the very motive and direction of the activity. The object is conceptualised, engaged, and enacted in diverse ways by participants of the same activity system. Second, the teachers differentiated in the object: an upward, long-

term general vision and a downward short-term dimension in classroom practices. Third, any change in the object can generate contradictions. The creation of a new object not only results in a new pattern of practice (i.e. artefacts, division of labour, rules), but also affects the identity of the subjects. Fourth, the use of CHAT as a theoretical framework facilitates reflexivity on the part of the researcher who employs it. Finally, rules and division of labour are critical features to support and develop educational change.

### *2.3.5 Research on department leadership*

Prior research on department leadership has emphasised the critical role of the negotiation processes, positive interactions among leaders, strong sense of department community and teachers' understanding of the distinctiveness of their work in enhancing the organisation's potential to implement change successfully. Specifically, negotiation processes can not only produce a sense of community and agreement as to what the relevant objectives of the department are, but they also play a critical role in the configuration of new leadership practices within the departments, which facilitates educational change. A brief discussion of the main literature on department leadership is discussed herein.

Melville and Wallace (2007) studied the tensions between departments seen as communities rather than organisational units. The researchers conducted a qualitative study to examine the science department of an Australian co-educational secondary school. The researchers found a tension between these two conceptualisations of the science department: "While the school managers may see the department as an administrative unit, teachers within the department are more likely to describe themselves using the community metaphor" (p. 1195). According to

Melville and Wallace (2007), the negotiation processes which take place within the department and between the department community and other organisational units are the antecedent of future actions. They conclude: "The meanings that the community negotiates are the foundations for the actions that the organisation takes" (p. 1204). According to them, departments with a strong sense of what is important to do in education have an enhanced potential to act as a strong organisation. When a department community acts on the meanings that the department community has negotiated, the department can act more confidently in the knowledge that its members understand and support its actions. It is this sense of understanding of and commitment to the department community that provides the department with its political power within a school. A second finding was the understanding that school departments should be seen as both communities and organisational units. From their shared sense of identity and meaning, departments are capable of organising themselves to promote access to professional learning, maintain accountability for their standards of teaching and learning and encourage teacher leadership.

Melville, Wallace and Bartley (2007) focused on studying the individual participation of teachers in the negotiation process that takes place within the science department. Using Bordieau's conceptualisation of "playing the game", the researchers analysed the actions, points of view and contributions (e.g. disposition) of four leaders to the negotiation process. According to the researchers, the teachers developed a disposition based in the context of the department. A major finding of these authors showed that the leadership focus of the teachers was on science education and not on school improvement. They assumed dispositions that allowed them to contribute to the transformation of the department through negotiated practices and meanings, in aspects such as content, pedagogy and relational concerns. Thus, leadership was expressed through their

engagement with different aspects of the department's work. As a result, the department made significant changes to its practices over the period of the study.

Ritchie, Tobin, Roth and Carambo (2007) undertook a qualitative study in a large urban school in north eastern USA. Using a dialectic perspective (e.g. agency | structure), they investigated the leadership practices within a transforming academy in which science, engineering, and mathematics were central components of the curriculum. They argued that solidarity among members of a team and the salience of emotions that shaped the success of the interactions were central to collective leadership. Major findings of this study were the importance for leaders to "exercise collective agency and, through this joint action, build solidarity" (p. 171). Moreover, the researchers identified how collective leadership is manifested. "Collective leadership manifests itself not only as practices like co-generative dialogues, but also as solidarity among participants, where interactions among participants generally lead to the production of positive emotional energy" (p. 171). They conclude that a successful negotiation process will happen when leaders and teachers participate in successful interaction chains to produce shared visions, negotiated structures and positive emotional energy. In turn, these actions generate resources for collective leadership to emerge, which empowers stakeholders to act in the interests of the collective.

Ritchie, Mackay and Rigano (2006) investigated the leadership dynamics of two contrasting school science departments in Australia. One school was a government (co-educational) high school while the other was a Catholic high school. Two science coordinators were the focus of the analysis of the leadership practices. In their study, "the designated leaders accepted individual leadership roles to improve outcomes for the benefit of the collective and these roles were perceived differently by staff members who occupied different positions within the schools" (p. 149). Moreover, both

coordinators applied collective leadership practices which empowered all teachers to lead. Yet, it was acknowledged that designated leaders or department coordinators used their privileged positions to shape structures that encouraged or constrained the teachers' contributions.

Using Bronfenbrenner's ecological theory, Lewthwaite, (2006) investigated the factors that constrain and support teacher-leader development. Three science teacher-leaders in elementary schools in New Zealand were the focus of his enquiry. The author identified negative factors (e.g. poor commitment, and teacher and administrative ambivalence) and positive factors (positive self-concept, an encouraging staff member) that "contributed to positive outcomes and consequences in personal development" (p. 344). The author pointed out important determinants of the development of a science teacher-leader. For example, individual factors such as professional science knowledge, science-teaching efficacy, commitment to becoming a teacher-leader, and motivation were critical. Similarly, he found that external factors such as the physical, social, and cultural features of the settings in which the teachers worked, strongly influenced their development as science teacher-leaders. In particular, a department structure consisting of closely associated school colleagues had a major effect in permitting or inhibiting activity.

From these studies, several conclusions may be drawn. First, when the different negotiation processes within the department collaborate, a common objective is produced, which gives directions to the actions of the department teachers. These collaborative processes of negotiation often prompt teacher leadership practices, because the teachers have developed awareness, agreement and meaning as to what is important in education. As a result, an enhanced potential to act as a strong organisation is produced. Second, collaborative negotiations can create dispositions which affect how teachers wish to contribute to the transformation of the department in aspects as significant as content, pedagogy and moral and

relational concerns. Third, successful negotiation processes are characterised by leaders and teachers participating in successful interaction chains which allow solidarity to grow, facilitate sharing visions, and negotiate structures with stakeholders.

Although the major contribution of the extant literature has been a better understanding of the relevance of the negotiation processes to organisational change, there is still a lack of understanding of how these negotiation processes take place, how new department leadership practices emerge and change during organisational change, what specific components of the department structure they affect and how leaders can influence the systemic components of the department to implement change. These are major issues not yet addressed in the literature of department leadership.

### *2.4 Discussion and Conclusions*

This chapter showed the need for studies which focus on leadership practice rather than on leaders' personal traits, and introduced CHAT as a theoretical framework to identify and describe the relationship between leadership practices and organisational change in school contexts. Thus, it is also necessary to understand how this methodological approach should be applied in educational settings.

First, from a CHAT perspective, the activity system is the context of leadership practices. The seven elements of CHAT (i.e. subject, artefact, object, rule, division of labour, community) provide the cultural context in which the leadership practices are embedded. CHAT expands the unit of analysis from the characteristics of the individual leader (i.e. trait, charismatic and transactional approaches of leadership) to the entire

activity system as a better context for studying leadership practices. Instead of understanding the context as something separated from the leadership practices, or as not having influence on it, CHAT helps to identify the context as a socially, culturally, and dialectically structured world. In this way, the leadership practices are historically located and mediated rather than exclusively in or between persons (Edwards & Fox, 2005). CHAT is deeply contextual and oriented at understanding historically-specific local practices. CHAT connects change to the context provided by the school and to the cultural-historical forces that influence the process.

Second, CHAT offers a model for analysis of two (or more) activity systems and looks for meaning within the individual systems and at the point where they intersect (i.e. object of the activity). This intersection allows analysis of how different leadership practices interact across many activity systems (i.e. school departments). CHAT offers a method for explaining the interrelationships among the different kinds of leadership practices which are embedded in different activity systems.

Third, CHAT provides a framework for examining the systemic contradictions and disturbances that arise during the practice of leadership in school departments. CHAT focuses on the level of actions of the leaders, allowing the researcher to see the root problems, because any actions are directed by motives at the activity level. Studying the level of the leaders' actions will help discern possible disturbances and contradictions in the activity system. In other words, CHAT provides a way to connect immediate micro-level disturbances, breakdowns, and conflicts with macro level, historically developed contradictions and the potential of these to produce new forms of activity.

The next chapter advances the research methodology for the study of leadership practices within two school departments. It describes the research setting, presents and discusses in detail the data collection and the data analysis techniques, and it discusses the rigor of the study in terms of its validity.

# CHAPTER 3

## Research Methodology

### 3.0 Introduction

Chapter 3 advances the research methodology for the study of leadership practices within two school departments. The previous Chapter concluded that there was a need for studying leadership practices within school departments during periods of organisational change. Additionally, Cultural-Historical Activity Theory (CHAT) was presented as the theoretical framework suitable to study leadership practices in school settings. Using CHAT as a theoretical and methodological framework allowed me the opportunity to identify and examine the actions of the school leaders and activity systems in which they were embedded. A focus on the object of the activity provided me with a very important backdrop against which the leaders' actions were performed, thus allowing a more informed data analysis.

Chapter 3 is structured as follows: in Section 3.1, I justify CHAT as a suitable theoretical and methodological framework to study school leadership in organisational change contexts. Section 3.2 describes the research setting, including some aspects of the process that I followed to familiarise myself with the school environment. In Section 3.3, I present and discuss in detail the data collection techniques utilised in this study; namely, (1) interview, (2) participant observation, (3) shadowing method (4) field notes, (5) formal documents, and (6) teacher's journal reflections. Next, in Section 3.4, I explain the data analysis technique. Section 3.5 is a discussion concerning the rigour of the study in terms of its validity. Finally, Section 3.6 presents a general discussion and conclusions of the chapter.

### *3.1. Rationale for the application of CHAT in this study:*

This thesis applies Cultural-Historical Activity Theory (CHAT) as its main theoretical and methodological framework. In order to justify CHAT as a suitable approach to the study of leadership practices in school settings, several limitations of the traditional theories of leadership are identified in Section 3.1.1. Section 3.1.2 follows with an examination of the main methodological advantages of CHAT when applied to capturing the dynamics and complexity of change processes in educational settings. Both limitations of the traditional leadership theories (TAL) and main advantages of CHAT are summarised in Table 3.1.

#### *3.1.1 Limitations of the traditional leadership approaches and methodological advantages of Cultural-Historical Activity Theory (CHAT)*

Traditional approaches to the study of leadership practices have focused on the leader as an individual, leaving out other co-participating elements of leadership practices such as the followers and contexts. Table 3.1, highlights CHAT's strengths compared to traditional approaches (TAL).

**Table 3.1**
***Limitations of traditional approaches to leadership versus CHAT's advantages***

| Limitations of TAL | CHAT's Strengths |
|---|---|
| ❑ Recurring focus on the leader's position of power<br><br>❑ Poor understanding of the interrelationship between leadership and context<br><br>❑ Overemphasised interest in how the influence process flows from the leader's position | ❑ Leadership is characterised by its distribution among and its interaction with multiple leaders and followers over time, rather than the actions of a single leader.<br><br>❑ CHAT introduced culture as the mediating factor between the subject and the environment.<br><br>❑ Effective leadership depends much more on collaborative efforts sustained by networks of leaders and followers than on the heroic actions of an omnipotent leader at the apex of the organisation |

As it is shown in Table 3.1, this section examines three main limitations of the traditional theories of leadership: i) recurring focus on the leader's position of power, ii) overemphasised interest in how the influence process flows from the leader's position and iii) poor understanding of the interrelationship between leadership and context. Each of these limitations is examined in turn.

(i) Recurring focus on the leader's position of power. Studies on trait, transformational and charismatic approaches to leadership focused on the figure of the leader and his/her control over both self and others (Avolio & Gardner, 2005; Gronn, 2000; Hernandez et al., 2012). The leader is essentially viewed as an individual in a higher position who impacts the culture and performance of the organisation through his/her demographic traits and actions (Heck, 1998; House,

1971). The trait approach supposes the study of the leader in isolation, separated from his/her social context (Christie & Lingard, 2001; House & Howell, 1992). Moreover, many of these studies emphasise a heroic view of the leader (Yukl, 1999). Yukl (1999) stresses that most research on charismatic leadership identifies attributes which enhance the leader's influence over the subordinates, which in turn "reflects a stronger bias towards heroic leadership, not to mention how the same qualities can be both a strength and weakness for a leader" (p. 40. Transformational leadership studies have also focused on a heroic view of the leader. The main assumption is that the effective leader will influence followers to make self-sacrifices and exert exceptional effort. Allix (2000) suggests that, despite the moral elation of transformational leadership, leaders and followers are not the same; leaders take the initiative in the relationship, are more skilful in assessing follower's motives and in anticipating their responses to initiatives. Consequently, oversimplified dichotomies such as autocratic versus democratic, transactional versus transformational, or task-oriented versus relation-oriented leadership styles have been emphasised.

(ii) Overemphasised interest in how the influence process flows from the leader's position. Studies on situational and transformational leaders have tended to examine solely on how leaders influence followers (Kramer & Krespi, 2011). Situational theories, for example, have failed to offer a satisfactory explanation of how these leaders are able to influence followers profoundly, and motivate them to transcend their own self-interest for the sake of the organisation (Crawford, 2002; Mello, 2003). There are important differences in terms of who exerts the influence, the purpose of the influence attempts, and the manner in which influence is exerted

(Vecchio, 1983). These differences reflect deep disagreement about identification of leaders and the nature of leadership processes (Yukl & Van Fleet, 1992). Yukl (1999) suggests that transformational leadership theory would be stronger if the dyadic perspective was replaced by a system that described leadership in terms of several distinct but inter-related influence processes at the dyadic, group and organisational levels. In his view, most notions of transformational leadership are limited in scope because they rarely include consideration of fundamental changes in social or organisational structures and practices (e.g., gender issues). In the same tenor, Leithwood et al. (1999) maintain that if leadership is only viewed as a formal and contained position, it is unlikely that the sustained and embedded energy to promote change or build change capacity can be internalised. Leadership must be conceptualised as a mutual influence process, rather than as a one-way process in which leaders influence others (Hallinger, 2005).

(iii) Poor understanding of the interrelationship between leadership and context. Traditional approaches to leadership lack understanding of the real-world events and influence processes in practice (Yukl, 1999). They have failed to provide applications and meaning to people in real-world administrative contexts (Bennis, 1999; Bjork, Lindle, & Van Meter, 1999; Day, 2001; Richmond & Allison, 2003). For example, trait approaches examining artificially-created groups (Klenke, 1996; Shamir et al., 1993) affirm that charismatic leadership does not explain how charismatic leaders bring about changes in followers' values, goals, needs and aspirations. In addition, work by Greenfield (1978) claimed that behavioural approaches based on quantitative analyses were ill suited to understand social constructions of school life. The community in which leadership is embedded has been largely ignored in most theories of transformational and charismatic leadership (Yukl, 1999).

Finally, these theories failed in explaining the role of situational factors in influencing administrators' thinking and actions (Avolio & Chan, 2008; Avolio & Gardner, 2005). In contrast, the leader's actions and skills have been over-emphasised (Allix, 2000).

These limitations can be contrasted with the advantages that CHAT offers to the study of school-leadership practices. The majority of traditional theories have failed in offering an explanation of the practical implications of leadership in action. Interestingly, much of the research on educational leadership is not about actual leadership practices at all; it focuses on leaders' values, beliefs, skills, or knowledge that someone thinks leaders need in order to act in an effective manner. Leadership continues largely to be treated as a personal issue, a complex and indefinable set of capabilities that allows some individuals to exercise influence over others towards specific objectives (Blackmore, 2004); it is largely premised upon individual endeavour rather than collective action, and a singular view of leadership continues to dominate, equating leadership with headship (Day, Harris & Hadfield, 2000).

In short, the literature suggest that to better understand how leadership is taken and enacted, the researcher needs to have a theory that facilitates the understanding of the broader social and practical relationships which shape leadership practices. The next section presents the methodological advantages of using CHAT to study leadership practices.

### *3.1.2 Advantages of using CHAT to study leadership practices*

Educational researchers (Gronn, 2000; 2002; 2008; Halverson, 2003; Roth & Lee, 2007; Spillane, Diamond, Walker, Halverson, & Jita, 2001;) have proposed Cultural-Historical Activity Theory (CHAT) as a theoretical and

methodological tool to study leadership practice. Roth and Lee (2007) maintain that the object of leadership as "realization of their collective motives" (p. 201) is an adequate connection to study leadership practices from the CHAT perspective. In addition, CHAT is in harmony with most recent research evidence concerning educational change (Rainio, 2008; Yamagata-Lynch, 2007; Yamagata-Lynch & Smaldino, 2007; Yamagata-Lynch & Haudenschild, 2009). Researchers underline the importance of focusing change efforts at different levels within the organisation (e.g. school and departments). In this section, four main advantages that CHAT offers to study school leadership and organisational change are advanced: i) CHAT introduces the concept of culture, ii) CHAT emphasises the interrelationship between several leaders, iii) CHAT advances that effective leadership depends much more on collaborative efforts sustained by networks of leaders and followers, and iv) CHAT allows the investigation of the complex dynamics between leadership practices and organisational change. Each one of these advantages is explained below.

(i) CHAT introduces the concept of culture. Culture enables an understanding of influence processes in leadership (Daniel, 2006). While trait and behavioural theories present leaders as people who display some exceptional features that have certain effects on followers (Muldoon, 2004), CHAT introduces culture as the mediating factor between the subject and the environment (Bedny & Harris, 2005; Sannino & Nocon, 2008). From a CHAT perspective, leadership practices are connected through the design and implementation of artefacts (Spillane, Halverson, & Diamond, 2004). Artefacts are understood to be the tools that leaders use to establish structures and for shaping social interactions, work practices and learning schools (Spillane, 2006). The practice of leadership uses artefacts, in particular leadership tasks. School leaders use artefacts such as curriculum documents, assessments instruments and professional

development programs to improve student learning; spreadsheets and financial statements to balance budgets; and newsletters and public meetings to enhance school-community relations (Halverson, 2004). These artefacts serve as constituting components of leadership practice (Halverson, Feinstein, & Meshoulam, 2009; Spillane, 2006). Halverson's findings (2003, 2006) show that school leaders use, design and implement artefacts which create interaction opportunities for teachers to improve their instructional processes. The value of artefacts shows how school leaders think and act to mobilise participants and to improve collaborative activity and instructional processes. According to Halverson (2003), the analysis of the artefacts that compose the system of practice by itself may not tell the whole story of leadership, but it does point to a valuable place to start making successful leadership practice accessible.

(ii) CHAT emphasises the interrelationship between several leaders. From a CHAT perspective, leadership is characterised by its distribution among and its interaction with multiple leaders and followers over time, rather than the actions of a single leader. (Gronn, 2000; Spillane, 2006). The properties of leadership (e.g. influence processes) are more likely to take a distributed, rather than a concentrated form (Gronn, 2000). As advanced in page 36, the term distributed leadership is understood in this study as a powerful theoretical framework to understand the dynamics and configuration of innovation in schools (Spillane, 2006; Timperley, 2008). According to Spillane et al. (2004), leadership activity is constituted by the interaction of leaders, followers and their situation (Spillane, Camburn, & Stitziel, 2007).

(iii) CHAT assumes that effective leadership depends much more on collaborative efforts sustained by networks of leaders and followers than on the heroic actions of an omnipotent leader at the apex of the organisation (Gronn, 2000). One of the central pillars of CHAT is the

idea that human development is based on active transformations of existing environments and creation of new ones, achieved through collaborative processes of producing and deploying artefacts (Stetsenko, 2005). Transformation is viewed not just from an individual perspective (e.g. from the leader qualifications, leader behaviour, leader charisma), but also as a "collective transformation" (Engeström, 1996b). The evidence suggests that supporting successful instructional practices requires the active collaboration of school leaders (Halverson et al., 2009). This collaborative process seeks to change the material world, human beings themselves and the nature of their interactions (Roth & Lee, 2007; Stetsenko, 2008; Vianna & Stetsenko, 2006). Traditional leadership accounts emphasise collaboration in terms of how it is accomplished, focusing on the many means by which people coordinate and manage their tasks, schedules, technologies, and interactions (Yukl, 2002). CHAT is grounded in the concept of object-oriented activity; it focuses on the *why* of collaboration, that is, the human desires that motivate the activity (Nardi, 2007). According to CHAT scholars, developing *why* understandings help to make sense of the actions of collaborative activity (Hutchins, 1995).

CHAT allows the investigation of the complex dynamics of leadership practice and organisational change. CHAT affords focusing simultaneously on the critical elements of leadership practice: the collective and individual levels, the macro and micro levels (Gronn, 2000). CHAT enables the use of analytical tools for understanding constraints and barriers to innovations in schools as well as possible new means to overcome them and to support sustainable innovative change efforts (Sannino & Nocom, 2008; Sannino, 2008). The potential of CHAT rests on the principle that it affords a holistic description of an activity system in terms of its basic components and their interrelations. Thus, interest can be in the conflicts within the components

as much as among components of an activity system (Karasavvidis, 2009). CHAT can enable a researcher to understand that the reality of action is collective, artefact-mediated and necessarily distributed in the more ample context of activity systems (Engeström, 2001). Drawing from a CHAT perspective, Spillane et al. (2001) define school leadership as:

> ... the identification, acquisition, allocation, co-ordination, and use of the social, material, and cultural resources necessary to establish the conditions for the possibility of teaching and learning. Leadership involves mobilising school personnel and clients to notice, face, and take on the tasks of changing instruction as well as harnessing and mobilising the resources needed to support the transformation of teaching and learning (pp. 919-920).

In sum, traditional leadership theories have been shown to have some limitations when capturing the practical implications of leadership practices. In this thesis I adopt a practical perspective for the study of leadership, in which the leadership practices are not located in the formal positions of the school but are distributed among different participants. The activity system is the context in which the leadership practices are embedded. This research project accepts that CHAT holds significant advantages to study school leadership and organisational change.

## 3.2 Familiarisation with the research setting of this study

Prior to formal data collection, I felt it important to devote some time to familiarising myself with the school environment in general and with the school departments in particular. Though my face was not unfamiliar within the school, I knew that my presence would affect the pace of the teachers' daily lives. Furthermore, because my fieldwork would carry out qualitative interviews and participant observation, I thought it would be important to make sure that the teachers were comfortable with my

presence. I spent time trying to gain their trust and building social networks.

I worked at English School as a social science teacher ten years before I conducted this research. I was a member of the social science department and taught only social studies subjects to high school students. I was particularly excited about going back to one of my first jobs as a high school teacher and I soon realised that they had become a very experienced professional community. As in any other qualitative study, the biases and assumptions of the researcher are embodied in methodological decisions, data analysis and in the writing process (Wolcott, 2001). I was aware of these potential biases and attempted to keep them in mind when interpreting information and presenting results. Thus, I began my research convinced that my experience as a social science teacher would aid my familiarity with the research field. Yet, I constantly questioned my observations and findings and I reviewed my field notes from alternative perspectives wherever possible. I was also extremely careful about a member checking the interviews (Monica and Sam for instance). In addition, soon after I began my research at the school, I came to the realisation that my role had completely changed since the time when I worked there, maybe due to all the years that I had spent doing my Masters in Education and my PhD studies before the data collection period. While the school environment was familiar to me, I felt like a completely different person in there, I was very aware of my researcher role and I felt like one, I was the researcher and no longer the teacher.

Despite the school environment being familiar to me, most of the teachers that I knew ten years before the data collection had left the school, even some of the school authorities had been newly appointed (Mr. George and Mrs. Mercedes for instance) Moreover, most of the department teachers were new faces to me, so I made a special effort for letting them know that

as an external researcher I would treat them with sincerity and respect. When dealing with some of the people I had met before the data collection, I noticed that they were remarkably forthright and honest with me.

The beginning of the research however was a problematic stage due to the arrival of a new vice-principal. Many times I had to remind myself of my researcher position. I had to resist interfering or taking part in the discussions. Having been part of the teaching staff many years ago, I struggled to resist the temptation to offer suggestions or ideas. Moreover, the school community had changed so much since I was there ten years before. It looked like a completely different school to me. I had hoped that I was going to be immediately accepted and trusted by the teachers, but this was not the case. I felt very uncomfortable at the outset. After having spent a few days at the school, it was very clear to me that I was considered an outsider rather than a team member. I recorded in my researcher's diary the difficulties that I was facing at the beginning of my data collection:

> School authorities allowed me to have a spot in the staff room, so I started to take notes here. Later on, I realised that this decision was not the best, because some teachers thought I was there to control their activities. For this reason, I decided to move to another place. I was given a cabinet closer to the departments. Over the next few weeks I was able to increase my participation in the departments …

While I became an increasingly familiar face within the departments and enjoyed the opportunity to interact with each participant, I adopted a very specific stance: I was here to watch and learn. Because the study's setting and participants were already familiar to me, I worked to see the English School through new eyes. I made my researcher role explicit to the teachers. As a result of my extended presence among them (estimated 8 hours per day, from Monday to Friday, for four months), not only did my presence became common to the teachers, but I was also able to familiarise myself with the school department routines. To ensure

reliability I triangulated the findings; that is, interviews were checked through participant observations, and compared against formal documents.

### *3.3* Data collection procedure

A case study is a suitable method to collect data on leadership practices within a school department because: (1) the case study relies on multiple sources of evidence to add depth to data collection, and (2) the case study brings a wealth of data together to formulate an understanding through triangulation which contributes to the validity of the research (Bogdan & Biklen, 1998; Bryman, 2004; Conger, 1998; Golfashanim, 2003; Stake, 1995; Yin, 1994).

During this phase of the study formal data collection took place over a four-month period between July and November of 2010. I became a participant observer in the math-science department and the social science department, devoting myself to studying leadership practices within these departments. I purposefully sampled two academic departments. These departments were selected on the basis of two criteria:

(i) Contrasting size: The social science department was composed of only four teachers. In contrast, the 10 teachers of the merged math-science department more than doubled the size of the social science department. Having an increased number of participants in the merged department increased the likelihood of identifying a different set of leadership practices.

(ii) Contrasting department identities: The contrasting disciplines within and across the departments were expected to offer different patterns of participant interaction and involve different discipline-oriented identities during the changes promoted by the vice-principal.

In addition to these criteria, at least two departments were selected to allow me to explore the dynamic interactions of multiple activity systems as required by the third generation of CHAT.

The timeline for my overall experience at the English School directly connected to this study was:

- June 2010: Settling in
- July-November 2010: Formal data collection

Prior to the commencement of the study, the participants were consulted about their potential involvement. Written approval was obtained from the teachers, vice-principal and the school principal to participate. Queensland University of Technology Ethical approval was obtained for the study (QUT ethical approval number 1000000805). Figure 3.1 summarises all the methods of data collection.

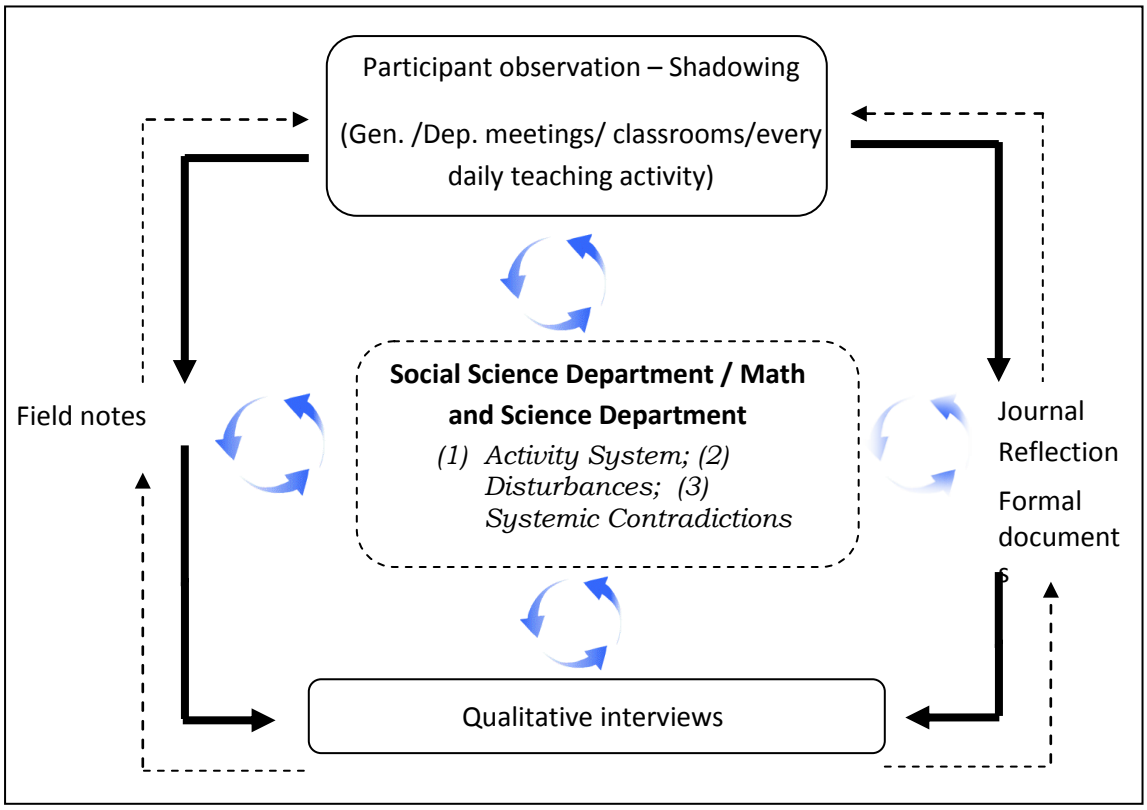



***Figure 3.1*** **Iterative process of data collection**

The iterative data collection procedure included:

(i) Delineating the activity systems of the math-science and social science departments.

(ii) Once the activity systems were individualised, I used the theoretical framework of CHAT (i.e. seven components of the activity system) to identify disturbances (i.e. misunderstandings, errors, obstacles, etc.) within the departments. These events are highlighted because they represent deviations of the normal activity of the departments; that is, they indicate a break in the flow of the script where the school leaders are called on to solve an impasse.

(iii) The process of describing and analysing each disturbance opened the window to me to have a better understanding of more complex connections between school departments and the school as the larger activity system (e.g. systemic contradictions).

Data from field notes, interviews, participant observations and formal document analysis were the sources to structure more precise questions. These data were reviewed constantly and updated with the new information from the interviews. A new understanding of the activity system/disturbances/systemic contradictions of the departments led to a new starting point to do further participant observation. This procedure was repeated during the data collection.

In this section I describe the data collection techniques utilised in this thesis. I used six qualitative research methods for collecting data: (1) interview, (2) participant observation, (3) shadowing (4) field notes, (5) formal documents, and (6) teacher's journal reflections (e.g. a daily record that each teacher should maintain of their activities).

### 3.3.1 *Interview*

After providing the participant with information for informed consent, the interviews began. Engeström and Miettinen (1999) explain the multiple viewpoints an analyst must take in order to approach an understanding of the activity under consideration. According to them, selecting a participant of the activity system facilitates the knowledge of how the activity system is constructed. "This dialectic between the systemic and subjective-partisan views brings the researcher into a dialogical relationship with the local activity under investigation" (p. 10).

#### *The objective of the interviews*

From this perspective, interviews were used to understand school departmental activity by explaining qualitative changes in leadership practices over time (Engeström, 1987). The interview structure used in this study was informed by a set of questions proposed by Jonassen and Rohrer (1999) and Mwanza and Engeström (2005) related to the study of school leadership. These aimed to evoke responses related to the major themes of leadership practice identified in chapter 2; namely, (1) Distribution of leadership practices, (2) Actions, disturbances, and contradictions, and (3) Utilisation of artefacts in solving contradictions.

#### *The content of the interviews*

As math, science and social science teachers participated in interviews; they explained how they perceived their department in the context of the organisational change that the school was experiencing. They described how their belief about teaching and learning, and the object of their department was being affected. I interviewed the school leaders of the

departments to find out how they perceived their leadership practices inside the departments. In order to learn more about the dynamics of their practices, I asked each of them to describe the functions they individually carried out and how other teachers contributed to the planning of the department activities. In addition, I asked subject teachers how they interacted with their leaders and how they perceived the leadership practices of their leaders in the context of current organisational change.

### *The structure of the interviews*

I conducted structured and semi-structured interviews with math, science and social science teachers during my observation of the department activities (Bryman, 2004). Importantly, the semi-structured interviews enabled me to obtain responses to similar questions across the departments for later comparison. For instance, I asked teachers to define the purpose of the department activity. The interviews were much more like conversations than formal events with a predetermined response (Yin, 1994). The formal interviews ranged from 45 minutes to 1 hour. There were 33 interviews in total. Several interviews were undertaken with the head of the departments and with each teacher of both departments.

### *The timing of the interviews*

Most interviews were conducted as soon as possible after each department meeting or general meeting. An initial set of interviews were scheduled at the beginning of the research. Subsequent interviews (structured and semi-structured) were used as a follow up to the initial interview to elicit deeper discussion and further clarification. In addition to these

standardised open-ended interviews, informal conversational interviews occurred naturally throughout the observation period. I used informal interviews when I was able to identify disturbances in department activities.

### *The analysis of the interviews*

The results of these interviews were coded using the seven components of CHAT (Engeström, 1987) to derive meaningful units. All of the structured and semi-structured interviews were recorded on a digital recorder and transcribed verbatim. Additionally, I conducted informal interviews in which I did not use any specific types or order of questions and I did not include any threatening questions. Instead, I posed questions to develop a healthy rapport that were implicitly connected with the research agenda and yet would not interrupt the flow of natural conversation. Because I could not record or take notes during the informal interviews, I recorded the main points of the conversation as field notes or a digital voice recorder right after the end of the interview so as not to forget them. Copies of transcripts were sent to the participants after each interview and before the next interview for checking.

### *The interviewees*

Chapters 4 and 5 provide in-depth introductions to the participants, so I only offer a brief introduction here. About 18 school members were interviewed and some of these were interviewed two or three times. Figure 3.2 shows the structure of the English School and the pseudonyms of the interviewees.

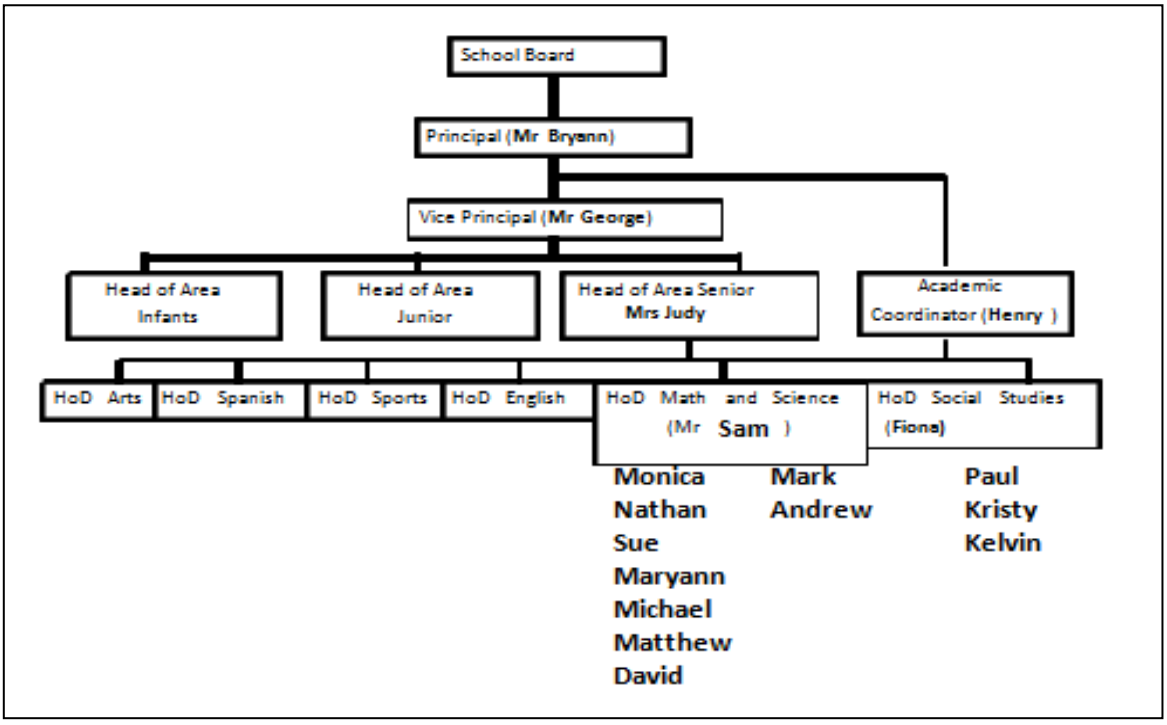



***Figure 3.2*** **General structure of the English School**

The English School is a private school run by a private school board. The principal (Mr Bryan) is part of the school board as the founder of the English School. As shown in Figure 3.2, the heads of Infants, Junior and Senior are under the command of the vice-principal. The position of the academic coordinator (Mr Henry) is subordinated to the principal. The heads of departments report directly to the head of seniors (high school). The teachers participating in this study belong to the math-science and social science departments. The English School has six teachers of science, three of math, and four of social science, as well as one science laboratory assistant. Four administrators were interviewed: the principal of the school (Mr Bryan), the vice-principal (Mr George), the head of seniors (Mrs Judy) and the academic coordinator (Mr Henry).

### *3.3.2 Participant observation*

I conducted participant observations of: department meetings, general meetings, classroom teaching, with the consent of participants, in everyday activity of the participants.

The initial field observation of the department meetings provided me with the opportunity to systematically record leader actions, the reasons for the actions, the specific division of labour involved, and the associated mediating artefacts. The leadership practices within the school departments and the disturbances were the central focus of my observations. In addition, I focused my attention on: Who led the meetings? Who talked at the meetings? How much they talked? What were the disturbances during the meeting? Were there any errors or mistakes, rule violations, misunderstandings, ruptures of communication, disagreements, criticism in public, wrongful or unfair accusations, gossip, complaints, or failures? How were these disturbances solved? What resources were used to solve these disturbances? How did teachers use practical tools (textbooks, curriculum materials)? How did the context (settings) mediate the use of tools? How did the context mediate the leadership practises of activities in the department? (Beswick et al., 2010); and how were artefacts used by school leaders to influence each other within the department (Halverson, 2003)?

### *3.3.3 Shadowing method*

In addition to the extensive participant observation, I used the shadowing method during the second part of my data collection. Once I could identify the key school leaders of the math-science department and the social science department, I decided to spend more time during the day with them. Twice a week, I followed the actions of Sam, the head of the math-

science department; Monica, the former head of the science department; Fiona, the head of the social science department; Paul and Kristy, social science teachers; and Mr George, the newly appointed vice-principal. I conducted informal interviews while the school leaders were in action, so I could gain an understanding of how the department functioned in informal ways, such as during the breaks, in corridors, or during lunch time.

### *3.3.4 Field notes*

Field notes were crucial to understand leadership practices and building department activity systems. In doing so, the initial field observation guide provided the ability to systematically record leader actions, the reasons for the action, the specific division of labour involved, and the associated mediating artefacts.

Field notes recorded the following components of a system:

(1) Subjects: that is, who does what in the activity system?

(2) Rules that constrain and justify the actions inside the department.

(3) Purpose of the actions as determined by interview.

(4) Division and distribution of the tasks and the status relations between participants.

(5) Disturbances or different opinions and points of view expressed within the department (tensions and disturbances in the activity system).

(6) Observer comments.

### *3.3.5 Formal Documents*

In addition to qualitative interviews, participant observation, and field notes, formal documents were collected. I gathered the department

minutes, senior management minutes, and mission statement of the school. The consideration of formal documents helped to shed light on the historical development and purpose of the department activities. These documents were reviewed regarding leadership practices by using the activity system mediated by artefacts, rules, community and division of labour. For example, the minutes of the math-science department allowed several disturbances (i.e. the delay of the Science Expo) to be revealed. A careful reading of the records of department minutes showed the different and contradictory perspectives among teachers about this event. Taken together, formal documents became significant when trying to understand the department context, possible goals and motives, and how artefacts were used to transform the object through moments of mediation.

### *3.3.6 Teacher's journal reflections*

I asked each teacher to maintain a journal of reflections throughout the study. My purpose was to access reflections of teachers about their daily activities to see if these were in harmony with their departments. Using this method, I quickly found that I could capture the weekly activities of the departments since the journal reflections became resources to prompt direct conversations with the participants. At the end of each day I had profitable conversations with teachers about their notes on their journal reflections.

## *3.4* Data analysis

Data were analysed in a three-step process.

(i) First, I organised and conceptualised data, according to the structure grounded in the seven components of Engeström's activity system.

(ii) Second, using the concepts of CHAT, I identified several disturbances, which enabled me to build categories of analysis.

(iii) Third, once I identified, described and analysed each disturbance I was able to connect it with systemic contradictions that arose within the larger school activity system.

The data analysis involved an ongoing process through six qualitative research methods. It was a process in which I delineated two activity systems, described and analysed several disturbances within departments, and connected these disturbances with systemic contradictions. Figure 3.3 summarises the data analysis plan.

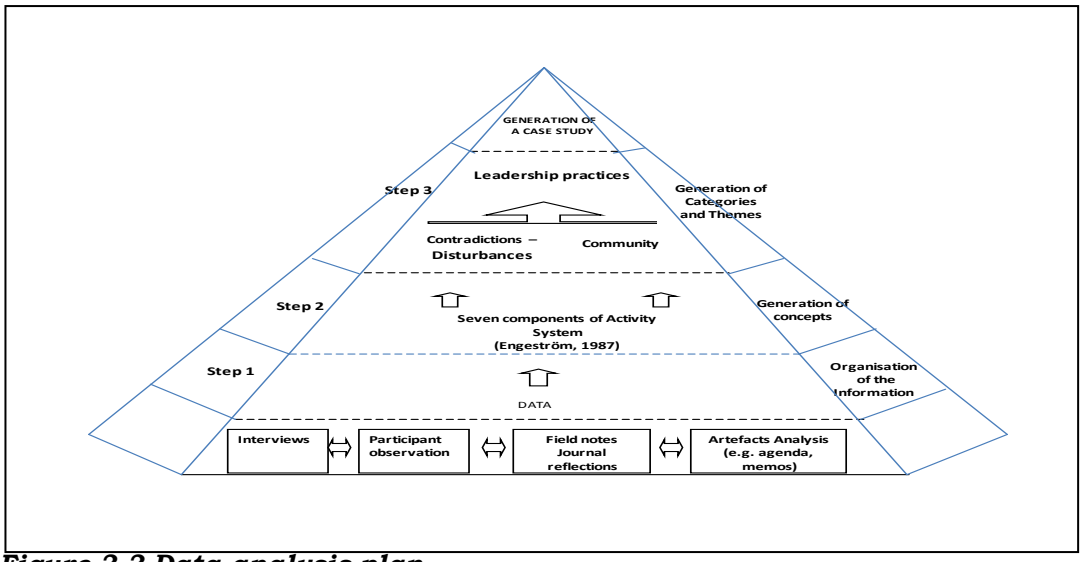



***Figure 3.3 Data analysis plan.***

In Figure 3.3, the pyramid shape illustrates how the study aimed to answer three specific questions about the single case study of the social science department. In this research, the analysis was understood as a process that began from data collection until the final writing of the case study. The dashed lines meant that each stage in the process was visited again. This process had three steps: (i) Organisation of the information, (ii) Generation of concepts, (iii) Generation of categories and themes.

### *3.4.1 Organisation and conceptualisation of data according to a previous structure grounded in the elements of Engeström's activity system*

In this stage, data included all information collected about the setting for which the case study was to be written. Data from participant observation, formal document analysis and field notes were recorded on note cards. After completion of the initial interviews, the resulting digital audio files were transcribed, printed, and read for initial understanding, clarification, and adjustment of erroneous transcription. After any necessary corrections, the transcription was prepared for analysis by assigning each participant a pseudonym.

To facilitate the next phase of analysis, transcripts were organised according to categories derived from CHAT as initial concepts (Engeström, 1987). This analysis began with the conceptualisation of the data using Engeström's seven components as initial concepts. Figure 3.3 shows the overview of data analysis for this research. The activity systems of the math-science department and social science department were delineated. This process continued by reading and rereading the data to identify how the information from the qualitative data fitted into the model of the activity system (Edwards et al., 2010; Keats, 2009) and questioning the data.

I used analytical questions from the eight-step model designed by Mwanza et al. (2009). The eight-step model captures the methodology grounded in activity theory.

(i) Object: Why is the activity taking place?
(ii) Subject: Who is involved in carrying out this activity?

(iii) Artefact: By what means are the subjects performing this activity?

(iv) Rules: Are there any cultural norms, rules, or regulations governing the performance of activity?

(v) Division of labour: Who is responsible for what, when is the activity carried out, and how are the roles organised?

(vi) Community: What is the environment in which this activity is carried out?

(vii) Outcome: What is the desired outcome from carrying out this activity?

In this stage, the constructions of running summaries were made (Miles & Huberman, 1994) on the themes emerging from the research. Each summary included the main ideas or themes as they relate to the three research questions guiding the study. Next, the object and subject of the activity were identified. Finally, the other components of the activity system were identified.

### *3.4.2 Generating emergent categories from the analysis of the data transcript with a particular interest in disturbances*

Themes that emerged from participant observation, field notes and qualitative interviews were categorised in terms of disturbances that took place in the math-science department and social science department. While I conducted the data analysis, I noted especially significant events as they occurred within departments. These events were deviations from standard scripts which resulted in discoordinations between staff teachers. As disturbances occurred, I frequently consulted with teachers both to crosscheck and to expand upon my understandings by sharing my interpretations for consideration (e.g. member checking). Both formal and informal interviews with the teachers allowed me to increase the clarity of

my own understandings of disturbances. These disturbances made visible the different viewpoints and perspectives of the subjects involved in the activity. Transcriptions of all tape-recorded interviews were coded for recurrence of disturbances, sorted and grouped. These themes/disturbances were arranged in chronological order. Analysis of the historical formation of an activity system is essential in understanding its developmental trajectory. The chronology of events helps to understand the preconditions and precipitating causes of the decisive actions that characterise the formation of the activity system (Nardi, 2007).

### *3.4.3 Connecting systemic contradictions and disturbances that faced school leaders within departments.*

In analysing several disturbances within the math-science department, and social science department, I was able to connect these disturbances with systemic contradictions (Engeström, 2001). The final step in the analysis of data was writing the case study narrative. This was carried out in such a way so as to be readable and provide a descriptive account of the leadership practices within the departments. These narratives appear in chapters 4 and 5.

## *3.5* Rigour of the study in terms of its validity

The concept of validity relates to the credibility of the findings of a study (Merriam, 2009). I employed several strategies to increase the internal validity of this research such as use of various sources of data, member checking, and triangulation. Triangulation included the use of multiple qualitative data-collection techniques in order to capture the dynamic and development of leadership practices in a more effective and accurate way (Stake, 1995). All participants were given a copy of their interview

transcript to note discrepancies (none were noted). Field notes were shared with the participants to improve researcher´s comments. The practice of using multiple sources of data was also a useful strategy to increase the internal validity of this study (Creswell, 2003). The interviews with each participant were scheduled at least one week apart, with some up to two weeks apart. I sent to some key participants the drafts of my descriptions of their departments and disturbances that I had detected. Then I asked for their feedback.

### 3.6 Conclusion of the Chapter

This qualitative research draws from CHAT to study school leadership practices and educational change within two departments: the social science department and the math-science department. Over the course of four months (July-November, 2011) data were collected using the qualitative research methods that enabled the findings described in Chapters 4, 5 and 6. Data collection and data analysis were developed together in an iterative process. Chapter 4 will now focus on delineating the activity system. It identifies and analyses disturbances within the social science department.

# CHAPTER 4

# Leadership Practices that Brought Disturbances into the Social Science Department

## 4.0 Introduction

In the previous chapter, I presented CHAT as a suitable theoretical and methodological approach to study the leadership practices of a school department during periods of organisational change. In this chapter, I examine the social science department as an activity system and identify several disturbances that were initiated by the leadership practices of Fiona, Paul and Kristy, and Mr George, the vice-principal.

Several findings are supported by the data in this chapter. The examination of the seven components of CHAT revealed the instability of the social science activity system. This instability was reflected in the undermined authority of the head of department, the segregation of a teacher from the department activities and the strong professional partnership between the two most experienced teachers. Moreover, the interaction of confronting leadership practices hindered the negotiation of shared objects, rules and artefacts. Thus, the disturbances were exacerbated and the social science department became a dysfunctional professional community.

In keeping with these findings, the discussion of this chapter is organised as follows. In Section 4.1 the activity system of the social science department is delineated using the seven components of the activity system, namely: subjects, objects, artefacts, outcomes, rules, community and division of labour. Section 4.2 analyses several disturbances, which emerged from five different actions that took place in the department. These were: Paul criticises Fiona for her lack of discipline knowledge,

Fiona interferes in the design of the field trips, Kelvin proposes a new field trip, Mr George attempts to cancel the field trip to Black Hill and Mrs Judy interrupts the work of the social science teachers. Section 4.3 presents a summary of findings and discussions, which completes the chapter.

## 4.1 Seven components of the social science department as an activity system

Seven components of the activity system characterise the social science department: subjects, objects, artefacts, outcomes, rules, community and division of labour. I analyse each of these components herein.

### *4.1.1 The subjects*

This department consisted of four subjects: Fiona, the newly appointed head of department, Paul, the former head, Kristy and Kelvin. Table 4.1 identifies these four subjects, their community involvement and the division of labour.

**Table 4.1**
**Teachers working in the social science department**

| Teacher | Role description |
|---|---|
| Fiona | She had been working at the school for 2 years. Fiona was appointed by Mr George as the head of department in 2009. |
| Kristy | She had been working at the school for more than 10 years. At the time of the data collection, she was doing her post-graduate degree in education. |
| Paul | He had been working at the school for 12 years. He was the former head of department. At the time of the data collection, Paul was about to complete his post-graduate degree in education. He was the president of the British School Association. |
| Kelvin | He had been a part-time teacher for 4 years at the school. He worked as a full-time teacher in a public school where he had been the head of the social science department since the foundation of the school. |

### *a. The head of department*

With the exception of Fiona, all the subjects identified in Table 4.1 were teachers with vast work experience and discipline knowledge. Fiona had been recently appointed as the head of department to replace Paul. Fiona was a history teacher with only two years of experience when appointed as head of department by the vice-principal, Mr George. As elaborated later, Fiona's position as head of department was undermined, and her leadership practices were affected, by Mr George's response to students' complaints about her teaching. Mr George took the action of relieving Fiona from one of her classes. Fiona recalled this incident with frustration and confusion. Fiona explained:

> Some students sent a letter complaining about my teaching techniques. They said that I did not prepare my lessons, that I had no knowledge nor command of the subject content. The principal and vice-principal decided to evaluate my work. But that never happened; I was told later that I was no longer the teacher for that subject. Since then I feel very uncomfortable at the school, I feel that what I do or do not do doesn't matter. I concluded that I have to concentrate only on my job; I have to do my best not because the authorities say so, but I have to work hard for my students and for my colleagues. I feel badly hurt by this decision.

As this quote shows, Fiona felt that her reputation was badly damaged and that her job was not important to the authorities. As, Henry, the academic coordinator noticed: "Fiona has been professionally discredited before her colleagues and before the school community". Regarding this issue, Paul said: "Fiona can't discern the difference between being a teacher and being head of department". As I will show further in this chapter, being discredited also limited Fiona's influence on the design of lesson plans and teaching techniques.

### *b. Paul and Kristy*

Paul and Kristy were each completing a master's degree in education. Paul was acknowledged not only as a knowledgeable teacher among his peers, but also as an influential leader. Mrs Judy, head of senior, indicated:

“Paul’s advice is respected by everyone”. Paul is the current president of the British School Association in Chile. This position had enhanced his command of the social science discipline and had given him a better understanding of how other British schools taught social sciences in the country. In my observations I noticed that Paul appeared confident about his teaching techniques and usually referred to himself as an “advanced professional” relative to others. I could appreciate how students and teachers showed respect for his discipline knowledge. One of the school authorities indicated: “Paul is an experienced teacher and very knowledgeable in the discipline; I have seen how he delivers his lessons and how the students respect him. I do not know why he is not the head of the department” (Henry). Thus, a vast teaching experience and an excellent reputation within the department and school community account for Paul’s leadership.

When asked about Kristy’s contribution to the department activities, Fiona indicated:

> Kristy is more decisive regarding decision-making; she is the one who "cuts the cheese". We have to consider that she has been working for more than ten years at the school. She is not afraid of addressing us when there are some issues; she has character and determination. When we have a problem in the department, she is the person who would take the initiative and would talk to anyone until a solution is found.

This quote reveals three characteristics of Kristy’s leadership within the department; her strong personality, her determination to find a solution when problems arose in the department, and her vast experience in the school.

In short, Paul and Kristy were acknowledged by their peers and by the broader school community as experienced and knowledgeable teachers. These characteristics contrasted with Fiona’s discredited reputation both as a teacher and as the head of the department.

### *c. Kelvin*

Kelvin was a veteran teacher. He had been teaching for many years in a public school where he also was the head of department. However, at the English School he worked as a part-time teacher. When asked about his working experience at the English School, he indicated emphatically:

> When my colleagues heard that I was coming to work only for a few hours at this school, they were surprised. They told me I would not last long. I also work at a public school as the head of the social science department; and our department is the strongest of the school. For example, when we had problems with the authorities, such as rumours of firing, we stood firm as a department, that way we accomplished many things. The situation here (English School) is very different though.

Kelvin constantly mentioned how different the situation of the department at the English School was compared to his public school: "Here, the teachers fear losing their jobs". He felt that he was not included in the decisions of the department: "I feel left out of the department's decisions". Kelvin was given little opportunity to interact with his colleagues, and his contrasting ideas regarding how to teach history isolated him from the department activities.

## *4.1.2 Conflicting conceptualisations of the object of the social science department*

There was no shared object in this activity system. Rather, I identified three conflicting objects: Fiona's object, Paul and Kristy's object and Kelvin's object. Fiona's leadership practices were focused on coordinating and aligning the department activities to the object of the vice-principal (improving students' performance in the PSU and SIMCE national tests). In contrast, Paul and Kristy saw themselves as the guardians of the object of their former department (improving teaching and learning techniques on the basis of outstanding discipline knowledge) and their leadership

practices were directed at the preservation of this object. Finally, Kelvin believed in his own object of making the students more aware of and more sensitive to the needs of the lower classes.

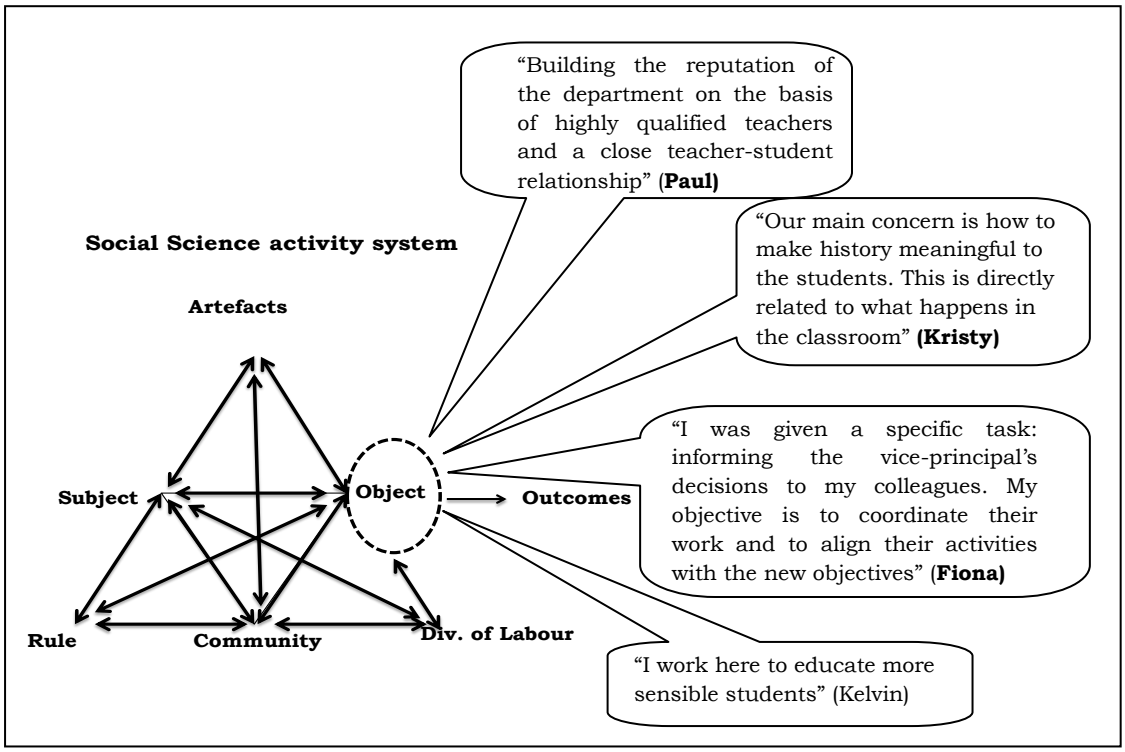



***Figure 4.1*** **The conflicting objects of the social science department activity system**

Figure 4.1 summarises the objects of the social science activity system. Each object is now described.

### *a. Fiona's object*

The following is an extract of one interview with Fiona regarding her role as a head of the department:

**Researcher**: How would you characterise your leadership role in the department?

**Fiona:** I am very focused on coordinating the department activities. I was hired to be a subject teacher and head of department, and I was given a specific task: informing the vice-principal's decisions to my colleagues. My objective is to coordinate their work and to align their activities with the new school objectives.

**Researcher:** Coordination? How come?

**Fiona:** Yes, that's my task. I understand that the department's objective is to get the job done. We have an annual plan that tells us what activities are due and what activities have been accomplished. My role is to coordinate my colleagues so that they stick to the plan.

**Researcher:** The plan must be fulfilled …

**Fiona**: Yes, in our department we emphasise professionalism. We set ourselves a target and we work together to achieve it.

As this excerpt shows, Fiona understood that her object as head of department was about communicating the new objectives of the school and about coordinating the teachers' work. She focused her leadership on coordinating her colleagues so that they would stick to the plan traced by the newly appointed vice-principal. She aligned the department activities with the new school objectives.

### *b. Paul and Kristy's object*

Paul and Kristy indicated that before Fiona took over as head of department, they had an effective working style which they had been developing for more than five years, and it was characterised by constant feedback and friendship among colleagues. In the following comment, Paul distinguishes the characteristics of the former department before Fiona took over. He said:

We try to give a distinguishing characteristic to our department. Before Fiona's arrival, our department was characterised by the stability of its staff and the teachers' reputation for being knowledgeable in their discipline. We were well respected. That motivated students to be constantly coming in for consultation. That made our department unique and distinctive. Many students told us that we were a department they could come and talk to. Our most distinguishable characteristic was our close student-teacher relationships. Today, although many

> things have weakened the objective of the department, Kristy and I have been working hard to keep this characteristic alive. That's why I said at the beginning of this interview that we have managed to survive, we are just surviving as a department.

To Paul, the object of the department before Fiona's appointment was focused on building the reputation of the department based on highly qualified teachers and a close teacher-student relationship. When asked about the distinctiveness of the former department, Kristy and Paul recalled:

> **Kristy:** Mauricio [former teacher] and I started our post-graduate degree the same year; we had a very good relationship: we studied together and brought articles from uni to the school and commented on them in our meetings. We asked ourselves how to apply that knowledge in our teaching practices; those were very fruitful years with plenty of pedagogical discussion.
>
> **Paul:** Our working style was characterised by the discussion of what we were learning at the university. We used to bring in the articles that we were studying and analyse them together. Sometimes we spent the entire meeting time discussing these issues. Now under the new department head, the routine of everyday life has made it very hard for us to meet and chat about pedagogical topics.

Paul and Kristy were aware of the differences between the working conditions of the current department compared to their former department. Both teachers agreed that studying a post-graduate degree stimulated the social science teachers to discuss their teaching and learning practices, which was very fulfilling because it was their way to "put theory into practice". These quotes also show that the social science teachers saw themselves as a community of learners characterised by experimentation and reflection (Smilie, 1995). That was a rule that they put into practice in their former department. They believed that by bringing papers and by promoting conversations they were contributing significantly to improving the teaching practices of the department. They indicated emphatically that they used to work collaboratively for a definite objective: improving their pedagogical practices through the collective discussion. However, they said that these characteristics had deteriorated under Fiona's leadership.

Kristy shared Paul's understanding of the object of the department. When asked about the main object of the department, Kristy indicated:

> Our challenge is finding the way to teach history in a didactic and entertaining manner. Our main concern is how to make history meaningful to the students. This is directly related to what happens in the classroom. The department is characterised by the professionalism of its staff. We decided to stay away from the major school problems and to concentrate on our job.

Paul and Kristy agreed that the former object of the department had been weakened under Fiona's leadership. Paul understood that his professional partnership with Kristy was their means to keep the former object alive. They had common views about their role as a department and their contributions as teachers.

### *c. Kelvin's object*

Regarding his work at the department, Kelvin indicated:

> I consider myself to be quite isolated from the rest of the department staff. The facts show me that they don't consider me. I'll say this again, people are afraid—afraid of losing their jobs.

He disagreed with the intended school objective of Mr George (improving students' performance in the PSU and SIMCE tests) and he did not identify himself with it.

> My main concern is about delivering teaching techniques which make history useful to the students … useful to understand mankind and their problems. I insist this school prioritises the PSU over any other objectives, so teaching history has become a means to improve the students' performance in the PSU test. My objectives are different; I work hard here to educate more sensible students. These children's parents have a lot of money and power, our job as teachers is making them aware of the lower social classes' everyday lives. As a teacher I just can't separate history from the current social contingency.

As this quote shows, Kelvin understood his teaching practices had a mission. He wanted to make the students more aware of and more sensitive to the needs of others, such as low social classes. In sum, he felt segregated from the department activities and decided to embrace an independent objective for his teaching techniques.

### *4.1.3 Artefacts utilised to achieve the object*

There were four main artefacts produced by the social science teachers: (a) the department lesson plan, which was the basic artefact the teachers used to link department activities to classroom activities, (b) preparing class material, which was an opportunity for the teachers to demonstrate their discipline knowledge, (c) field trips, which were the responsibility of Kristy and Paul and (d) the "Friday meetings", which sought to develop friendships and to create a better working atmosphere.

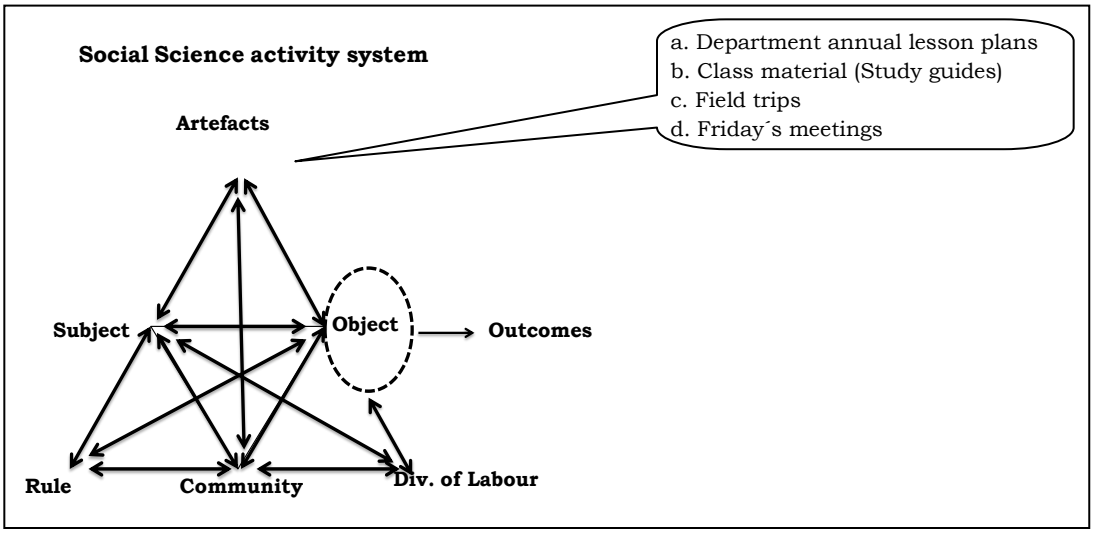



***Figure 4.2*** **The artefacts of the social science department activity system**

Figure 4.2 summarises the artefacts of the social science department. I follow with an explanation of each one.

### *a. The department annual lesson plan*

The department annual lesson plan was mentioned as the most common artefact produced by the social science teachers. A department annual lesson plan defined how the teachers delivered the subject content and also the time allocated to covering this content. This artefact helped them give coherence and meaning to their activities.

### *b. The class material*

In addition to the department annual lesson plan, the teachers designed class material (i.e. study guides) to support their teaching and learning processes. The design of the class material was an opportunity to evaluate the expertise of each teacher. The following excerpt from an interview with Fiona illustrates the process that the teachers followed to design class materials:

> **Researcher:** How would you describe the teachers' participation in the design of class materials?
>
> **Fiona:** Well, if I want to prepare for instance, an exercise booklet, I consult with Kristy. After that, I follow her suggestions and prepare my own exercise booklet. When Kristy or Paul prepares some new class materials, they make them available for everyone to use them.
>
> **Researcher:** What is your contribution?
>
> **Fiona:** I prefer cosmetic contributions. I like editing. Kristy is the specialist in History of Economics, and Paul is the expert in Chilean History and Contemporary History.
>
> **Researcher:** And how about Kelvin's contribution?
>
> **Fiona:** Kelvin prepares his own class materials. Sometimes I have the chance to check them out. Sometimes I hand him a practice exercise that we have already designed in the department. In general, we share our class materials.
>
> **Researcher:** Do you share your class material with Paul and Kristy?
>
> **Fiona:** No, I keep the class material with me.
>
> **Researcher:** Why?

> **Fiona:** Well, because I take their class materials and modify them so that they meet my own objectives. They never ask me if I used their class material or not. We don't get the chance to talk about it.

As this excerpt shows, the preparation of class materials reveals some influence processes. Fiona recognised the professional competences of Paul and Kristy. They were the specialists and knowledgeable teachers while Fiona and Kelvin were the receivers of the authorised material that they prepared. The quote shows that Fiona had little participation in the design of the class material. The next quote focuses on this aspect of the professional relationships in the department. Kristy indicated:

> Each one of us prepares his/her own class material, but there are occasions when they have been the fruit of our collaborative work. Then we share the new class material. Needless to say that I trust Paul's the most, I don't trust Fiona's. As I become more familiar with them, I have noticed that she doesn't have a good command of the discipline. She has made mistakes, which sort of undermines her credibility. When I have questions I ask Paul, and when he has questions he comes to me.

The quote reveals the dynamics of the pedagogical work of the department. Kristy trusted Paul´s class materials because of his outstanding discipline knowledge. She recognised that the design of the artefacts was the outcome of their collaborative work. Because Fiona had lost credibility regarding discipline knowledge, she was left out of the artefact design process. Paul referred to the relevance of the class materials:

> Inside the department there are different appreciations of the quality of the class materials that each colleague designs. For instance, class materials made by Fiona are not as well valued as those that come from Kristy. The preparation of class materials gives you the chance to assess your colleagues on their professionalism and discipline knowledge.

Paul indicated that the quality of the class material that each teacher designed was determined by the professional competence of the teacher. In this regard, the mutual trust between Paul and Kristy was also highlighted

by Paul. In his view, Kristy was an authority in discipline knowledge that added value to her work. On the contrary, Paul did not trust Fiona´s class material due to her lack of professional competence.

### *c. The field trips*

The field trip was another artefact used by the social science teachers. Paul said: "the field trips are the expression of the very essence of our department". When asked about the organisation of the field trips, Paul reported:

> The idea of the field trip to Broad Beach and Black Hill was mine, I created it, I have more experience, I have networks. I already know the procedures. Kristy organises the field trip to White River all by herself. It's her activity. Kristy knows the authorities over there and the people who expect us there (Paul)

This quote shows that Paul and Kristy were the organisers of the field trips. Interestingly, they referred to them using the words "my", "his" or "her" activity. They thought of the field trips as if they were their personal belongings or possessions: they created them, they ran them, and they "owned" them.

### *d. The Friday meetings*

In addition to the department's lesson plan, class materials and field trips, the teachers indicated that their informal "Friday meetings" were very important to the department.

> The "Friday meeting" is very important to us. We need it; I feel that I need it. During the week, we remind each other to attend the meeting and encourage each other not to miss out. I miss the meeting when it's called off. During this meeting, we encourage each other to keep improving our work, share the experiences that we have had during the week, check on how our colleagues are doing and how their families are keeping. Even when we have had clashes with other meetings that have

> been scheduled for the same time, we always look forward to catching up. With time, we have become better organised, having a list of teachers in charge of organising the meeting every week (Fiona)

Thus, the "Friday meetings" were an informal department gathering during which teachers used to have some refreshments and addressed department issues. This was the teachers' chance to spend time developing friendships and creating a better working atmosphere.

### *4.1.4 Outcomes*

Outcomes are the result of one or more subjects acting on an object through mediating artefacts and socio-cultural elements of an activity system (see Chapter 2). The outcomes of the social science department were influenced by the leadership practices of Paul and Kristy. They saw themselves as the keepers of the former object that was "to improve the teaching and learning techniques of the department based on professionalism and outstanding discipline knowledge" (Kristy). When asked about the goals of the department, Paul indicated:

> Our efforts are focused on educating people from a holistic perspective. This means that we do not only teach academic-oriented students, but also students who want to experience and live history. We educate people who want to grow and mature as individuals, they not only learn by reading the textbooks, but also by designing and implementing projects.

As this quote shows, Paul's vision went beyond the objectives of the annual lesson plan; he was concerned about educating a mature and complete individual. His leadership practices sought to emphasise this final outcome among the social science teachers.

### *4.1.5 The rules that governed the actions of the social science department activity system*

In this section, I examine two types of rules governing the actions of the activity system: implicit and explicit rules. I analyse first the different kinds of implicit rules which regulated the temporal rhythm of work, the distribution of resources and the teachers' codes of conduct. Then, I examine the only explicit rule of the department.

Taken together, the implicit and explicit rules guided the actions of the social science teachers. The implicit rules were established by the collaborative work of Paul and Kristy. They were pleased with these rules because they represented the regulations of their former department and helped them achieve their objective. The foundations for these rules were professional competences such as teaching experience and discipline knowledge. Paul and Kristy saw the rules as a means to achieve their own shared object: improving teaching and learning techniques on the basis of outstanding discipline knowledge. In practice, the teachers did not negotiate these rules and were mainly articulated by the main leaders, which was a major cause of disturbances inside the department. Figure 4.3 illustrates the rules of the social science department. I explain each rule herein.

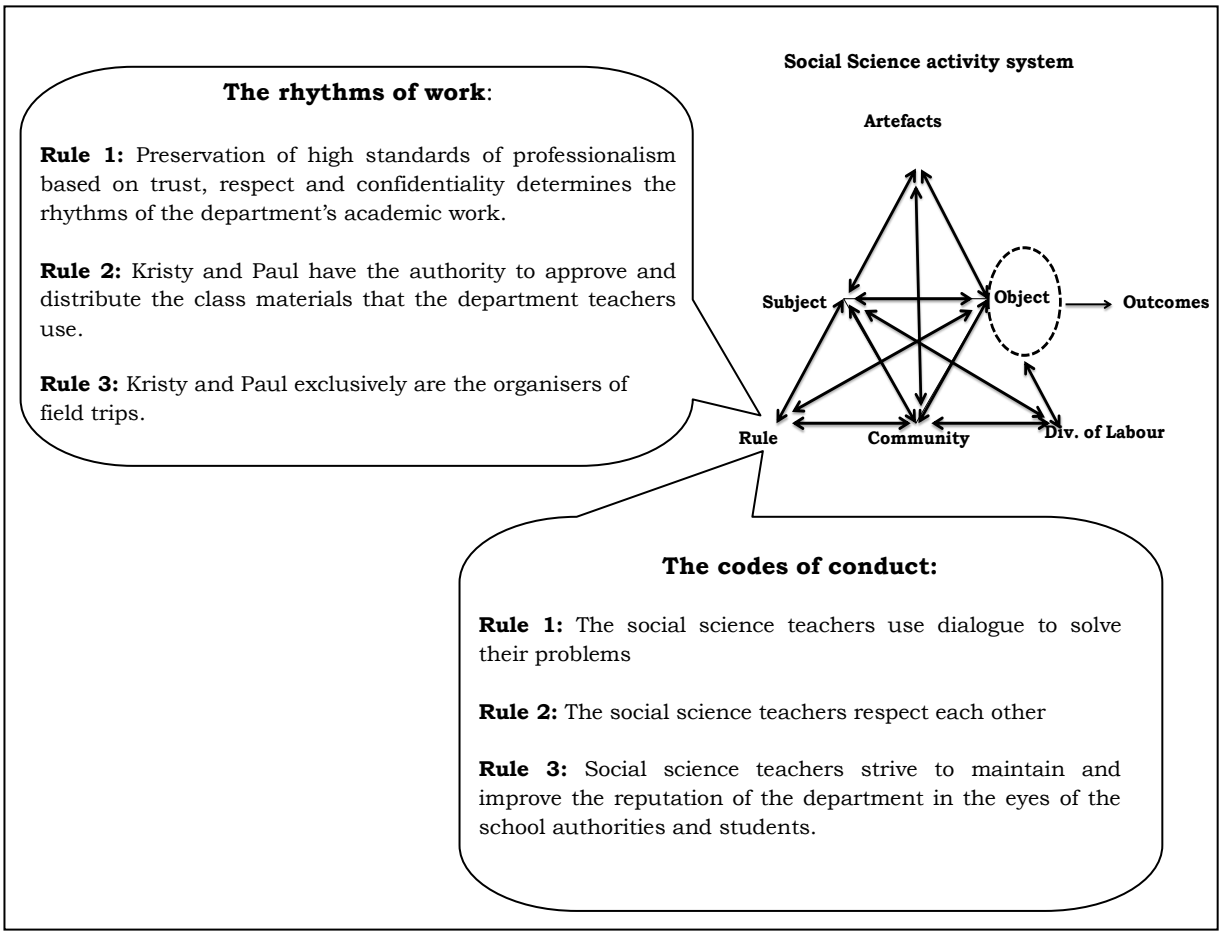



***Figure 4.3*** **The implicit rules of the social science department activity system**

### *a. Implicit rules regulating the temporal rhythms of work*

The temporal rhythms of work refer to the alignment and coordination of the teachers' activities in order to achieve their object. They punctuate the continuous flow of activities with periodically recurring events and thereby offer ways of condensing activities that exhibit some regularity and predictability (Mills & Murgatroid, 1991). As shown in Figure 4.3, two implicit rules regulated the temporal rhythms of work of the department. Each is discussed in turn.

*Rule 1:* Preservation of high standards of professionalism based on trust, respect and confidentiality determines the rhythm of the department's academic work.

The preservation of high standards of professionalism was a rule supported by Kristy and Paul. They each viewed each other as a trustworthy source of discipline knowledge. When asked about Fiona´s contribution to the department activities, Kristy was emphatic:

> When we meet up with Fiona, we only talk about administrative matters. She tells us what we have to do; her contribution is reminding us what we have to do. With Paul we handle the academic matters very well; we have known each other for years—when I have questions, I ask Paul, and when he has questions, he comes to me …

Paul and Kristy felt responsible for the academic orientation of the department. They saw themselves as knowledgeable, experienced and very familiar with the school culture because they had worked at the school for more than ten years. They were aware of their professional competences and this awareness gave them confidence and authority. The following comments are typical in this regard:

> **Kristy:** I am very practical, probably too practical sometimes. My two colleagues are a bit more theory driven, I have to bring content down to earth. I have assumed that role and they have accepted it. For instance, sometimes they say to me: "Ok Kristy, tell us how we are going to do this" … so in the end I make many decisions.

> **Fiona:** Kristy makes the main decisions … in agreement with Paul, she seeks counsel from Paul. She is more decisive regarding decision-making; she is the one who "cuts the cheese". When we have a problem in the department, she is the person who would take the initiative and would talk to everyone until a solution is found.

As these quotes show, Fiona accepted the authority of Kristy in solving the department problems. Kristy took the initiative in talking to her colleagues and in communicating the final decisions. If necessary, she would talk to

the school authorities and discuss a solution with them. The close professional partnership between Paul and Kristy sought to preserve high standards of academic performance that determined the rhythms of the department's academic work.

*Rule 2:* Kristy and Paul have the authority to approve and distribute the class materials that the department teachers use.

Overall, Paul and Kristy designed most of the department's class materials and distributed them to their colleagues. They saw themselves as the experts in the discipline and were also acknowledged by the rest of the teachers for their discipline knowledge and expertise, which generated trust in their work. As the teachers said:

> **Kristy:** Paul tells me for instance: "Look, I prepared these in-class exercises … would you like to use them?" Then it is up to you whether you accept it or not; but it's all a matter of trust. Whether you decide to accept a colleagues' class material or not is not going to affect your relation with them at all. We divide tasks between Paul and I, Paul usually prepares an activity and then he makes it available to everyone. Needless to say, I trust Paul's practice questions and class material the most, and I do not trust Fiona's much … she has many discipline knowledge gaps. She has made mistakes in the past and that affects her credibility—that generates distrust.
>
> **Paul:** I trust in the work of Kristy, and I am pretty sure that she trusts mine … class materials made by Fiona are not as well valued as those that come from Kristy. The preparation of class materials gives you the chance to assess your colleagues on their professionalism and discipline knowledge.
>
> **Fiona:** …Kristy is the specialist in History of Economics, and Paul is the expert in Chilean History and Contemporary History. When Kristy or Paul prepares some new class materials, they make them available for everyone to use them.
>
> **Henry (Academic coordinator):** They know what they have to do. They are studying their Master of Education and that has had a significant influence on their working style. I have noticed it in our meetings; I can tell the command that they have of their discipline in how they speak and the topics that they raise.

Trustworthiness depended on professional competence and discipline knowledge. Paul and Kristy reciprocated professional courtesy by exchanging resources which helped them improve their teaching

techniques. Kristy and Paul worked as a team on the bases of mutual trust, but Fiona was not included. They didn't trust her competence in the discipline.

*Rule 3*: Paul and Kristy exclusively are the organisers of the field trips.

The field trips of the department were planned in detail, and they were the responsibility of Paul and Kristy. As Kristy said:

> The department works on the basis of agreements: if Paul proposes an activity, he is going to be responsible for its execution. For instance, the field trip to Black Hill is Paul's responsibility but Fiona and I cooperate with him. The field trip to White River and the Economy Expo are my tasks, I organise them. We have done it this way for many years because each one understands that this is how things have to be done.

Based on this implicit rule of the department, Fiona was required to follow strictly the instructions of Kristy and Paul relating to the organisation of field trips. Kristy and Paul took responsibility for the execution of the field trips and consequently they made all the necessary decisions related to these trips. They had carried out these field trips for many years and they were the experts. As Paul indicated:

> The idea of the field trip to Broad Beach and Black Hill was mine, I created it, I have more experience, I have networks. I already know the procedures. Kristy organises the field trip to White River all by herself. It's her activity. Kristy knows the authorities over there and the people who expect us there.

### *b. Implicit rules that governed the codes of conduct*

Codes of conduct represent default assumptions about behaviour and delineate the limits within which changes can take place freely, deliberately and without social cost (Adler & Borys, 1996). As shown in Figure 4.3 there were three rules that governed the codes of conduct, as described below.

*Rule 1:* The social science teachers use dialogue to solve their problems.

Social science teachers engaged in dialogue and conversation to solve their differences. When asked about the rules of the department, Paul indicated:

> **Paul:** Since Fiona joined us, we have tried to keep some kind of working style in the department. Before she was appointed head of the department, Kristy and I had a very close relationship, characterised by dialogue. One of our basic principles was faithfulness, which you do not see everywhere, there are lots of jealousy in the working environment and lots of insecurity as well … but between us there was no jealousy or rivalry … We didn't have big conflicts and when we had a problem we used to solve it by dialoguing … Currently, everyone's working style is different … we are absolutely different; I feel that we haven't been able to consolidate a harmonised working style yet.
>
> **Kristy:** When we disagree about something, I approach the person right away; if I have a problem with Paul, I will go ask him immediately. We solve our problems inside the department, not with other authorities.

The quotes reveal that Paul and Kristy had learnt to work in harmony over the years that they trusted each other and kept confidences in what they were doing. They had created a safe working environment where they were not jealous or critical of each other. They solved their problems based on mutual trustworthiness and dialogue. This was an important rule that governed the codes of conduct of the department.

*Rule 2:* The social science teachers respect each other.

The respect for the work of each teacher was a very important rule that governed the codes of conduct in the department. The social science teachers believed that each colleague was committed and worked responsibly, so they deserved respect and consideration. They promoted courteous working relationships.

> **Kristy**: I am very respectful of my colleagues' work. No one would interfere with the work of a colleague in the classroom. I know what my colleagues do because the students tell me; but we trust the professionalism of our colleagues.

> **Fiona**: Everyone is very independent but also very professional in the classroom. We know that because we are just a few teachers here, an individual's failure will affect the entire department. Therefore, we take our job seriously and responsibly.

According to the teachers, the social science department was a professional community. The respect for each one of the teacher's work was seen as an important rule that regulated the conduct inside the department. Interestingly, as elaborated in section 4.3, this rule was eventually violated causing disturbances within the social science department.

*Rule 3:* Social science teachers strive to maintain and improve the reputation of the department in the eyes of the school authorities and students.

Kristy and Paul indicated that the department used to be characterised by its professionalism. The reputation of the department was very important to them. Paul said: "we have had problems in the department, but they do not represent the situation of the department as a whole". In another interview, he commented:

> The department is characterised by the professionalism of its staff. We decided to stay away from the major school problems and to concentrate on our job. We don't want to criticise, we seek low profile. But we are convinced that this low profile is the result of the diminished power of the heads of department under the current administration.

Kristy stressed this comment when she indicated: "the distinguishable characteristic of our department is our professionalism; we seek doing a good job". Collectively, Paul and Kristy constantly promoted improving teaching and learning processes because it benefited the students and kept the reputation of the department before the school community.

***c. The explicit rule of the social science department activity system.***

The social science teachers used the department annual lesson plan as an artefact that determined their explicit rule. Each teacher had to fulfil the annual department lesson plan and they had to respect the agreements regarding the distribution of class materials, textbooks and lesson contents (artefacts). As Paul stated:

> We know what we have to do. We stick to our department plan; we have internalised it because we have been doing this for many years. The department annual lesson plan helps us to coordinate our work. For instance, we know which class materials we need to use, or what textbook is more suitable to teach a specific content, or what practice questions are more helpful.

It is important to highlight that the teachers had used the annual lesson plan for many years, so the agreements regarding department activities and class materials tended to be accepted by all teachers. The annual lesson plan was considered to be an explicit agreement that determined the department activities for the rest of the year and the teachers were reluctant to make any changes later during the year. This explicit rule can be restated as: At the beginning of each term the social science teachers have to complete the annual department lesson plan.

### 4.1.6 Department Community

This section describes the main characteristics of the social science community. I identify several internal and external pressures that combined to fracture the community, and render it unstable and dysfunctional. I present evidence to support the claim that this instability was reflected in the undermined authority of the head of department, the segregation of a teacher from the department activities and the strong professional partnership between Paul and Kristy.

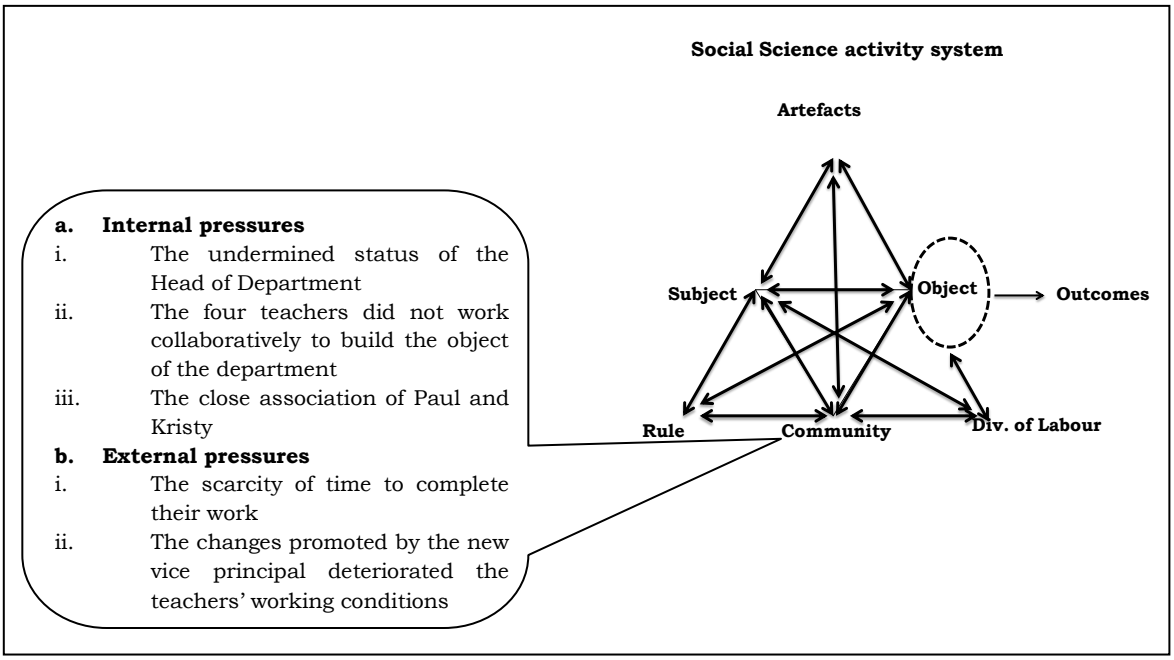



***Figure 4.4*** **The community of the social science department activity system**

Figure 4.4 summarises the internal and external pressures of the social science community. I examine each of these pressures herein.

### *a. Internal pressures*

Overall, the characteristics of the social science department corresponded to a dysfunctional and fractured community. Three situations explain the characteristics of this department:

(i) The undermined status of the head of department. Fiona failed to gain the respect and support of the community to define a shared object. Fiona's role as head of department was reduced to coordinating different department activities and she had to adapt herself to Paul and Kristy's working style. The reassignment of Fiona´s class to another teacher brought a sense of deep frustration and professional discredit to her.

(ii) The four teachers could not build a shared object for the department. The lack of a sense of community was evident in the segregation of Fiona and Kelvin from Paul and Kristy's professional partnership, which resulted in three conflicting views of the department object. When asked about the functioning of the department, Fiona indicated:

> We are a small department, but we have learnt to work in a collaborative way. I coordinate different activities; Kristy makes decisions in agreement with Paul, she seeks counsel from Paul, they work very well together. If they want to complain about something, they do not hesitate to go to the school authorities. They feel that they have the right to face the authority because they have been working for many years at the school. Kelvin lives in his own world, because he teaches only a few subjects here.

(iii) The quote shows how the department was divided: Fiona (the coordinator), Paul and Kristy (the decision makers in discipline matters) and Kelvin (who was segregated from the rest of the department). There was a superficial unity, but in reality, only some individuals interacted with each other and they had only managed to suppress the conflict. Due to this dysfunctional relationship, both problem-solving and learning from each other's experience were hampered.

(iv) The close professional partnership of Paul and Kristy. In the previous quote Fiona described the work of the department as collaborative, but she realised that her leadership practices were subject to Paul and Kristy's approval. They work well together because they have known each other for many years. Not only do they work together, but also they feel they have the authority to represent the interests of the department before the appointment of the new vice-principal. I observed how they worked together, frequently talking about their teaching techniques and seeking to improve their practices. In his discussion of close relationships in school communities, De Lima (2001, p. 109) argues that friendship,

"especially at deep levels, is developed among people who view one another as similar". Finally, Kelvin "lives in his own world" (Fiona), suggesting that he did not interact with his peers and works independently.

### *b. External pressures*

The changes that had been promoted by the new vice-principal became a source of external pressures for the social science community.

(i) The teachers complained about the shorter time gaps between lesson periods. They felt rushed and perceived that the "scarcity of time" characterised their work under the new administration. On one occasion, I saw the teachers walking quickly into the staff room to pick up some class material for their next lesson. One of the teachers indicated emphatically: "we are always running against the clock, I have no time to have a cup of coffee or to talk to my colleagues". Another teacher commented: "rushing all the time keeps me in a bad mood every day". The following excerpt illustrates how time constraints impacted on interactions within the social science department. I noticed that Paul rushed into the staff room to pick up some class material for his next lesson. As he entered the room he announced:

**Paul**: Kristy, I need these practice questions for my next lesson …

**Kristy**: Take them, no worries … (Kristy rushes to check some information on the computer): "I have just finished a lesson, and have to go teach the next one right away … I have no time to do anything".

**Fiona**: Kristy, we have to talk about the document that Mrs Judy has been asking for …

**Kristy**: Not now Fiona, I do not have time right now, let's talk later please …

This event finished when Kristy and Paul left the room in a hurry, rushing to their next lesson. I could see Mr George walking along the

corridors and checking on the teachers, whether they had started their lessons on time or not.

(ii) The social science teachers repeatedly complained about the working conditions under the administration of the new vice-principal. They used a picture of the "sinking Titanic" to illustrate the school situation. Fiona and Kristy explained:

> **Fiona:** The school is like the sinking Titanic and we are like the playing orchestra … yes it's funny, but we are playing. We are focused on doing our job even when the school is in crisis.
>
> **Kristy:** Look, this is the picture that we use to illustrate the department's situation (she points out to a picture on the wall). It's a picture of the Titanic that was hung there a couple of years ago when all these issues about firing teachers happened. We were the ones who were still left on the boat … It's an analogy, you get it? Last year we were the orchestra playing on the boat while it was sinking. Although one laughs, it symbolises our working conditions, an illustration of what we had before but it's now almost gone … but we still have to do our job. We are still working … the social science department keeps working with professionalism and we stay very close to our students …

It is important to highlight that the teachers are aware of the negative effect of the difficult working conditions on their own work as a department. Teachers responded to the deteriorating working conditions by focusing on working with professionalism.

### *4.1.7 Division of labour*

There were two competing roles within the division of labour of the social science department: Paul and Kristy as the discipline specialists and Fiona as the department coordinator. In this section, I present evidence to support the argument that Paul and Kristy's leadership practices strongly contributed to creating an arbitrary, exclusive and inflexible division of labour. Moreover, they believed they had the authority to enforce the division of labour on other teachers. Figure 4.5 illustrates the division of

labour of the social science department. I examine the department's division of labour herein.

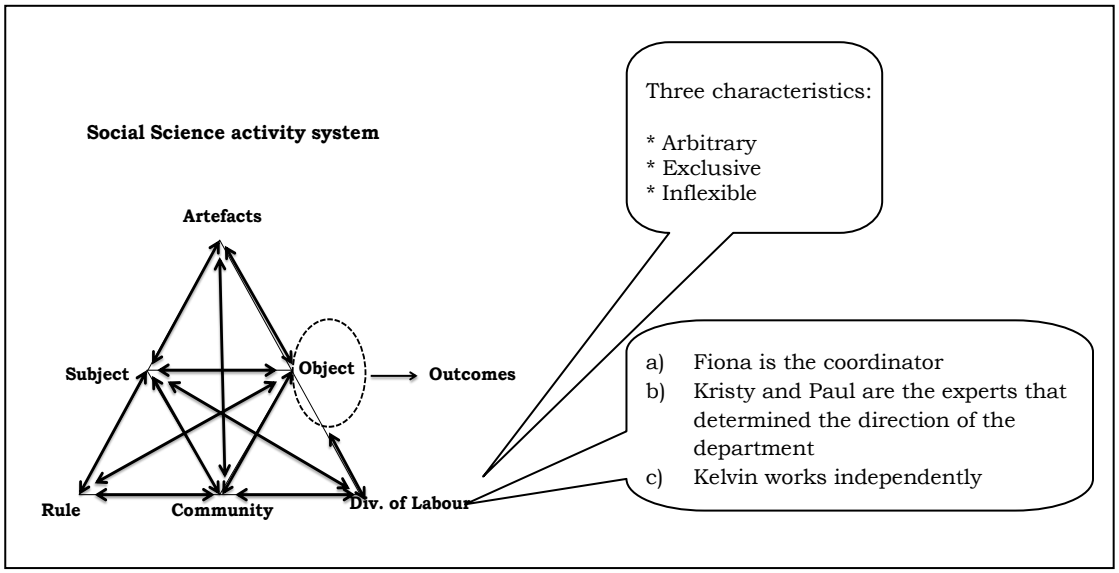



***Figure 4.5*** **The division of labour of the social science department activity system**

### *a. Fiona's coordination role*

Even though Fiona was the appointed head of department, the teachers acknowledged her only as a coordinator of the department activities. The following dialogue illustrates her position in the division of labour:

**Researcher:** How would you define your leadership practice in the department?

**Fiona:** I do not believe I am the leader of the department. My leadership style is not about control, but about coordination. I simply try to be the coordinator of a group of friends.

**Researcher:** Could you give me an example?

**Fiona:** As part of my role as head of department, I'm going to be checking tomorrow if the colleagues are following the department annual lesson plan. At the end of each unit we all must be up to the same point.

**Researcher:** What happens if the teachers do not stick to the plan?

**Fiona:** I try talking to them, we agree on new deadlines. When they do not achieve the goals I try other strategies. For example, last year I hung an announcement on

the notice board to remind them of a task that had not been accomplished yet. I did this to attract their attention, I like using irony to tease my colleagues …

**Researcher:** Could you give more examples?

**Fiona:** For example, we have been working hard and we have not had the time to prepare some extra class materials. If I do not keep on telling them to work on it, they are not going to do it. Another example is the department annual lesson plan; they finished it only because I push them hard.

This dialogue reveals that Fiona saw herself as part of a group of friends, rather than their leader. She identified herself as the "pacemaker" of the department. She also thought of herself as the coordinator and supporter of the department activities. She assumed the role of scheduling the activities of the department. Paul highlighted this aspect of Fiona´s coordination: "she keeps the department going and moving forward, she makes sure everything is well organised". Her labour as the coordinator of the department was demonstrated during the organisation of a field trip, as the following interview excerpt shows:

**Researcher:** Are the field trips good examples of your coordination activities?

**Fiona:** Yes, because I am not familiar with the students they work with. I am not familiar with their activities either. Paul and Kristy are in charge of the field trips; I just come along and see if any materials or funding are needed.

**Researcher:** When you got back from the field trip, I saw that you were talking to Paul and Kristy about it …

**Fiona:** What you saw today … we remembered the two field trips that we have done this year: to White River and to Black Hill. We haven't completed the overall evaluation of these trips yet. I always evaluate the trip's achievements at the end of every activity; I tend to forget about it but I try to do it as soon as it's over. For instance, I suggested keeping records of the authorities who participated, their phone numbers, etc. It is important to keep a registry for the next year, because you never know whether you're going to be here next year or not, so it's important to have that information available for the new teachers who might get involved in these field trips in the future. This was my idea; I like to evaluate our activities.

As this brief dialogue shows, Fiona's coordinating role involved moving around supporting the field trips that Kristy and Paul organised. In addition, the quote shows that Fiona tried to create a new artefact (the assessment of the field trips). This artefact reflected her personal interest

to improve this activity. In Section 4.3 I identify some disturbances that arose when Fiona attempted to go beyond the tasks that Kristy and Paul had assigned her.

### *b. Paul and Kristy's discipline-specialists role*

Paul and Kristy positioned themselves as discipline specialists and the most experienced teachers. In practice, Kristy and Paul decided where the department was heading. Their authority was based on their discipline knowledge, teaching experience and expertise of the school culture. Thus, they influenced the division of labour. This feature of the division of labour is illustrated by the following interactions that took place during an informal meeting, when Kristy and Paul entered the staff room talking about the lesson they had just finished.

> **Kristy:** What do you think about this in-class activity? Was it aligned with our last conversation?
>
> **Paul:** It went very well. I believe that there are things that we must improve, but overall it worked very well. Let's discuss the details later, is that OK with you?
>
> **Paul:** (Fiona was working on the computer when Paul approached her) Oh, Fiona! I am going to start a new content unit, and we are going to need some class materials…
>
> **Fiona:** I'm a little busy right now, but tell me …
>
> **Paul:** Let me work on the new class activity a bit more and I'll tell you exactly what I'm going to need.
>
> **Kristy:** Fiona … Do you have any information regarding the School Track?
>
> **Fiona:** No Kristy, I have the same version that you have, the information we were given during the last general meeting. Would you like me to consult with Mrs Judy?
>
> **Kristy:** No, don't worry. I prefer to ask her myself.

This brief conversation ended when Paul and Kristy walked out to take their next lessons. Fiona kept on working on the computer. It is interesting to note here that Kristy influences what activities Fiona gets involved in

and which ones exclude her. Paul and Kristy assigned to Fiona the tasks she was expected to accomplish. Fiona appeared to be restricted to supplying some administrative information and to supporting some specific activities. After this event, I had a conversation with Paul about their daily activities.

> **Researcher:** What was the topic that you were talking to Kristy about?
>
> **Paul:** She told to me about an idea of hers for improving a class activity in one of the subjects that we teach in parallel. She wanted me to attend her class. The students have completed some research projects on the ancient world. They showed how the Egyptian process of mummification was. They dressed up themselves as Egyptians. I told her that it was spectacular.
>
> **Researcher:** Was this Kristy's idea?
>
> **Paul:** Yes, but we are working on it together now. There are things that need to be improved. But the activity itself is spectacular. We can make history much more meaningful to our students through these activities.
>
> **Researcher:** So you agreed on conducting this activity together?
>
> **Paul:** Yes we were chatting about that, precisely. We want to do something as a team this Monday, I am going to begin a new content unit with my class and I'll replicate Kristy's activity. We believe that doing something like this will get our students very excited and that it will bring history to life. We agreed on spending more time developing these kinds of activities.

This interview excerpt shows how the professional partnership of Paul and Kristy was highly focused on improving their teaching practices. They spent time talking about creating new artefacts (e.g. research projects on the ancient world). On another occasion, I observed one of the department meetings in which the division of labour was quite clear:

> **Kristy:** Why don't we spend some meeting time on preparing the next content unit?
>
> **Paul:** Good, I agree.
>
> **Fiona:** According to our department annual lesson plan, we should spend a few weeks on this content.
>
> **Paul:** We should add more content to what the textbook teaches about aboriginal communities. The textbook is quite general in this case; we need to add more detailed information, especially considering that the students will visit an aboriginal community.

**Fiona:** What textbook did we use last year?

**Paul:** We used this one, but I insist we shouldn't go on a field trip knowing just the limited content of this textbook; we shouldn't rely only on this content.

**Kristy:** I agree with you Paul, I can prepare a practice questions booklet with more information about the economic models of our aboriginal communities.

**Fiona:** You are very good at that Kristy.

**Paul:** I already contacted the aboriginal community and asked them to receive our students.

**Kristy:** Fiona, I believe you should talk to Mr George about the transportation.

**Fiona:** Ok, just one more thing, is it ok if I hang an announcement on the whiteboard with the details of the field trip?

**Fiona:** (The meeting is interrupted when Kelvin walks in, but he doesn't join the meeting) Fiona addresses him and says: Kelvin can you please sit and join us for a while? What contents are you up to at this moment?

**Kelvin:** I believe I'm on schedule, according to the department plan.

**Fiona:** Do you need any class material? Do you want me to photocopy some for your students?

**Kelvin:** I think I'm ok, actually I wanted to show you some practice questions that I prepared.

**Fiona:** Let me see it, I'll check it with my colleagues. I'll give you a practice questions booklet that Kristy designed, please tell me what you think about it.

As this event reveals, both Kristy and Paul determined the division of labour of the department. In practice, Kristy and Paul took the responsibility for the development of teaching material and then assigned secondary tasks to Fiona, such as organising transportation for the field trip. However, she was not invited to participate in preparing class materials or any practice questions, a sign of the exclusive distribution of labour. The way in which Paul and Kristy worked together is illustrated in the following comments:

**Kristy:** We design the tests separately, but then we meet up and get feedback from each other. I trust Paul, and he trusts me back.

> **Fiona:** My personal relationship with Kristy and Paul is good. Regarding my professional relationship, I am a bit complicated, because they have very strong characters. They are very structured, there are lots of things that they are not willing to change, and they do not try new things simply because "we have never done it this way before".
>
> **Henry (Academic coordinator):** They know what they have to do. They are studying their Master in Education and that has had a significant influence on their working style. I have noticed it in our meetings; I can tell the command that they have of their discipline in how they speak of the topics that they raise.

As these comments reveal, Kristy and Paul were recognised as a team not only by Fiona, but also by the school authorities. They were highly oriented to improving teaching and learning techniques. It is interesting to note that this characteristic was interpreted by Fiona as conservative and as a hindrance to introducing some innovations. As she indicated: "there are lots of things that they are not willing to change, they do not try new things simply because we have never done it that way before".

Fiona distinguished the personal relationships from the professional relationships with colleagues. She acknowledged that her personal relationship with her colleagues was not as good as her professional relationship. Finally, Fiona´s lack of discipline knowledge was indicated by Paul as an obstacle to working with other people: "I trust the work of Kristy; I would expect to see a better outcome from Kristy's work compared to Fiona's". Fiona's poor command of the discipline affected the sorts of tasks that she was invited to participate in: she was a helper to Kristy and Paul and she was not allowed to make decisions affecting teaching and learning techniques.

In practice, the division of labour was inflexible when implementing changes was necessary (e.g. Kristy and Paul rejected the initiative of new field trips proposed by Fiona and Kelvin). It was expected that because of the arbitrary, exclusive and inflexible division of labour, some disturbances would arise, which are examined in Section 4.2.

### *4.2 Analysing actions and disturbances*

Having described the characteristics of the social science department, five actions are identified and analysed in this section. These actions broke the rules of the department which in turn produced disturbances in the form of criticisms, conflicts or disagreements, mistakes, misunderstandings, lack of coordination and obstacles. I analysed these disturbances to show how they were affected by Fiona, Paul and Kristy´s leadership practices. The interaction of these practices was a major source of contradictions inside the department, which were exacerbated by the leadership practices of Mr George.

### *Action 1: Fiona asks Paul for help with her study guide*

As it has been stated, Fiona's lack of expertise and discipline knowledge was a major complaint among the social science teachers. She was frequently referred to as the "novice teacher". She was criticised for acting (i.e. designing practice questions) without approval by her senior colleagues and for not doing what her senior colleagues expected of her (i.e. coordination tasks). On one occasion, I noticed that Paul was upset. I approached him and he commented:

> Did you realise what just happened today? Fiona was preparing a practice-questions booklet (study guide) and she asked me some questions that clearly indicated her limited knowledge of the topic. This is not the first time that it happens [he seems quite annoyed]. Everybody in the staff room noticed it.

This quote reveals a disturbance to the rules that regulated the codes of conduct of the department. The disturbance took the form of criticism. Paul criticised Fiona for her lack of discipline knowledge. According to him, Fiona violated the rule that stressed that the social science teachers strive to maintain and improve the reputation of the department in the eyes of

the school authorities and the students. In Paul's view, Fiona's poor discipline knowledge had been noticed by other colleagues, which undermined the image of the department. Weeks later, Paul commented on the difficulties of Fiona as the head of department. He said, "The school authorities are under the impression that we have problems in the department. If we do, it's because of our disagreements, because Fiona has been unable to complete the tasks that we have assigned her."

Fiona had also broken the rules stating that Kristy and Paul were exclusively the designers of class materials and that they had the authority to approve and distribute them for the teachers to use. Interestingly, the quote also reveals how Paul himself violated the rule which stipulated that the social science teachers respect each other's work. In short, Fiona's efforts for preparing some class material broke the rules that regulated the division of labour and the codes of conduct. This triggered disturbances in the form of criticism and disagreement.

Paul and Kristy indicated that the arrival of Fiona as a head of department had affected the teachers' professional relationships. At the beginning both Paul and Kristy advised Fiona of the rules of the department. However, Kristy acknowledged that they had problems in the form of disagreements and difficulties. The following excerpt from an interview with Kristy is typical of the teachers' views:

> **Researcher:** You were telling me about the characteristics of the department before Fiona took over. How did Fiona's role as head of department affect the department activities?
>
> **Kristy:** Fiona's arrival deteriorated our professional relationships. We had a very well settled team. We had a very friendly and collaborative working style, but we took our job very seriously as well. We disagreed a few times with Fiona about her teaching practices and we have talked to her about it.
>
> **Researcher:** Could you give me some examples of these issues?

> **Kristy:** We have had problems regarding department procedures. Fiona had no previous experience as head of department, we had to teach her. We used to tell her: "you have to do this, you should keep an eye on this and you are in charge of that". She began from zero; we had to help her, but Fiona did not show an authoritarian attitude, she listened to us and she learned, that made things easier for us all.
>
> **Researcher:** How would you describe the current situation?
>
> **Kristy:** We still have two major problems. Her administrative skills are not completely developed yet, but she is doing better than last year. We are not starting from zero. I understand that a person develops these skills over time. Fiona is now familiar with some department procedures such as reports, timetables, the department budget, etc. The second problem is about her professional competences in the discipline.

As the quote reveals, Kristy distinguished between the managerial and pedagogical dimensions of the headship. According to her, Fiona had made some progress towards developing administrative skills, but had not yet met the department standards for a social science teacher. Thus, the disturbances run deep in the department and finally the teachers indicated that Fiona had lost authority as their leader. In the following comment, Kristy indicated emphatically her perception of the position of Fiona in the department.

> She is the head of department, but we see her just as another colleague. If you ask me, if she is the leader of the department, as someone who goes ahead of us and we follow her, I do not see her that way. She is a nominal leader because she was brought here by the school authorities, but being our leader ... that's a different story.

The quote reveals Kristy's perception of Fiona as the leader of the department. Fiona did not gain acceptance as a leader in the department.

### *Action 2: Fiona interferes in the design of the field trips.*

The three annual field trips were the most visible artefacts of the department. Paul and Kristy organised those trips. They believed that these field trips gave them an opportunity to support instructional

practice, review assessment criteria and reinforce their professional community. I observed how Paul and Kristy organised these field trips. They followed the procedure stated in the department annual lesson plan. For instance, both teachers had agreed on visiting the different places and interviewing the local authorities one week before the field trip. This activity would help the teachers design the study guides for the students to complete during the trip. Disturbances arose when Fiona tried to change the existing rules that governed the field trips. Fiona explained:

> I have suggested a complementary activity for the Conference in Rose Valley. Traditionally the students travel, present their work and return the same day. I proposed that the students should spend a second day over there visiting museums and other places of interest in the city.

The following interaction took place between Kristy and Paul when the problem was dealt with during a meeting:

> **Kristy:** Paul, have you heard what Fiona wants to do?
>
> **Paul:** Fiona told me something about it the other day, but I thought it was just an idea.
>
> **Kristy:** She is organising a new field trip, which has not been included in the department lesson plan. This is not what we had agreed; I have already passed my complaint on to Mrs Judy.
>
> **Paul:** Fiona is working by herself and it's not the first time it has happened. I had to talk to her when we organised the field trip to Black Hill and I told her that I disagreed with her choice of teachers for the trip. I disagreed with her criteria to decide who was going to help in the field trip and told her that she was not following the procedure. I believe this way of organising our activities damages the department.
>
> **Kristy:** How can she plan on making changes without consulting us first?

This excerpt shows that the disturbance took the form of criticism and disagreements. According to Paul and Kristy, Fiona's attempt to design a new field trip was essentially a deviation from the rules governing the artefacts of the department (lesson plan and field trips). She was working on something that was not included in the annual lesson plan and decided

to create a complementary activity to the field trip to Rose Valley. She violated the rule of the department that stressed that Kristy determined the boundaries and decided about instructional issues. On the other hand, when Kristy recognised that she had already talked to Mrs Judy about this problem, she herself violated the rule governing codes of conduct (i.e. social science teachers engage in dialogue and conversation to solve their differences). Kristy also transgressed the rule of trust, respect and confidentiality between the teachers. Finally, this episode revealed a violation of the rule associated with the distribution of the resources: the field trips were planned in detail by, and were the exclusive responsibility of, Kristy and Paul.

The following days in the department were quite tense. I could observe how the relationship between Paul, Kristy and Fiona had been damaged. Fiona decided to seek the support of the school authorities such as Henry and Mr George. I observed that Kristy had conversations with Mr George about this disturbance. The disturbances were not solved by the teachers, and they continued to transgress the rules that emphasised trust and dialogue for the solution of their problems. Finally, the activity proposed by Fiona was cancelled by the vice-principal. Mr George justified his decision:

> I made this decision after listening to Paul and Kristy's complaints. They told me that this complementary activity had not been included in the department lesson plan, that it wasn't representative of the department and that they would not be responsible for the outcomes. Considering all this, I decided to keep the traditional field trips. Fiona's proposal was clearly conflicting with the traditions of the department.

Mr George ended Fiona's attempt for creating a new artefact. In practice, Paul and Kristy interpreted Fiona's actions as a violation of the rules that regulated the design of the department artefacts. After Mr George cancelled Fiona´s field trip, personal relationships inside the department were strained. I recorded the following conversation during one of the department meetings:

**Kristy:** Fiona, I am not happy with your decision about the field trip to Rose Valley because we have not talked about it as a department.

**Fiona:** But this is something good for the department. I have already talked to the students and they are happy to leave a day earlier.

**Paul:** But that is not what we have always done.

**Kristy:** Fiona you know that the procedures for the field trips are agreed in advance.

**Fiona:** I am sorry Kristy, Ok … I accept that I decided this in the last minute and without consulting you.

**Kristy:** Fiona I insist, I have nothing against this idea, but you have to understand that this activity doesn't follow the procedures that we have respected for years in this department.

This excerpt shows how Paul and Kristy disagreed with the procedure that Fiona followed to create an additional component of the field trip. According to them, Fiona violated the rule of the department that established that the field trips should be planned with the accord of other colleagues. After this meeting, I asked Kristy and Paul their opinions about the disturbance:

**Kristy:** I decided to take part in the meeting that you attended because some procedures were not clearly understood. I wanted to say that these activities that we organise … we should do them together, that we should respect our department annual lesson plan and the way we have done them in the past.

**Paul:** The problem that we had with Fiona concerning the cancellation of the field trip to Rose Valley was like a "reality show". The principal, the vice-principal and teachers, all of them heard of the problems of the department. I am concerned about the reputation of the department now because I don't want the vice-principal to believe that my department is mediocre and weak. We are a professional community and what happened with Fiona does not reflect the image that we have been building all these years.

Fiona had violated the traditional rules that governed the design of the artefact of the department and the rule that stressed that the social science teachers strive to improve the reputation of the department. According to Paul, the department was a professional community characterised by its prestige before the authorities and students. As a

consequence, Kristy and Paul "decided to entrust no more activities to Fiona" (Paul, Interview). Fiona acknowledged the outcome of this disturbance as follows:

> To me, the department is like a refuge house because my friends are there. I consider myself an idealistic teacher. I feel that my colleagues do not trust me anymore. Paul and Kristy care a lot about their job, they fear the authorities, and they wouldn't dare go against them. I believe that this problem has shown their lack of transparency and also how weak our personal relations are.

This quote reveals the consequences of Fiona's actions on her professional relationships. She understood that she had lost the trust of her colleagues and that Paul and Kristy had rejected her idea for the trip because of their fear of the authorities.

***Action 3: Kelvin proposes a new field trip.***

The previous disturbance revealed that Paul and Kristy considered themselves to be the guardians of the department rules. Fiona was censured and strongly criticised by her colleagues because she did not follow the rules linked to the object of the department. A similar situation happened when Kelvin proposed a new activity to his colleagues. This activity was, as Fiona indicated: "a new field trip for the students to visit an archaeological site". Kelvin added: "I think this activity can be meaningful to the students". Paul, Kristy and Fiona discussed Kelvin's proposition, as follows:

> **Fiona:** Kelvin talked to me about a new field trip he is planning with his students. I found it very interesting; he wants to visit an archaeological place. He says that he has all the necessary contacts.
>
> **Paul:** Sounds interesting. Is Kelvin planning on having this activity this year?
>
> **Fiona:** I think so.

**Paul:** Why didn't he propose it earlier? You know that it is not included in the department annual lesson plan for this year. I do not know if we have funding for any more activities this year.

**Kristy:** The field trips that we already have in the lesson plan are sufficient to meet our objectives. Organising new trips would overload teachers and students. Kelvin should know this.

**Fiona:** The problem is that when Kelvin wants to talk about these kinds of things, we are not available. It is hard to meet together. The only day that we all are available is on Wednesdays, but Kelvin doesn't come on Wednesdays.

**Paul:** A new activity would require talking to Mr George and explaining that this is something new. I don't want any more problems; I believe that you have to tell Kelvin that his activity sounds interesting and that we will consider it for the next year.

**Fiona:** What should I tell Kelvin then?

**Paul:** Tell him that his activity is interesting, but we do not have funding or time to run it this year.

**Kristy:** I agree. Fiona you should tell him, since he came to you with his proposal.

The excerpt reveals that the disturbance appeared in the form of misunderstanding and faulty coordination. According to Paul, Kelvin did not understand that the new field trip should have been proposed earlier. Kristy accentuated the disturbance when she suggested that the field trips already included in the lesson plan were sufficient to achieve the object of the department. The disturbance also revealed flawed coordination among the social science teaches. Their individual agendas and the scarcity of time to arrange department meetings prevented the teachers from discussing the new field trip any further. However, Paul and Kristy ignored Fiona's concern. On this occasion, the initiative of Kelvin had been rejected for the same reason they had rejected Fiona's initiative: it was outside their department annual lesson plan. When asked about the decision of the department, Kelvin indicated:

> I feel very frustrated because of this decision. It accentuates much more what I told you a few weeks ago regarding my segregation. At the beginning, Fiona supported me as the head of department, but now she gives me another version. She told me that there is no money. I am sorry for the students; I'm sure that it would have been a very enriching activity for them … I am aware of the fact that this episode has broken my relation with my colleagues.

This quote shows that Kelvin's proposition initiated a disturbance when he presented it to Fiona in the first place as head of department. In doing so, he ignored the implicit rule that Paul and Kristy were the authority in instructional issues and the exclusive organisers of field trips. At the beginning Fiona supported Kelvin's activity, but Paul and Kristy opposed her support for the field trip, once again undermining Fiona´s authority and demonstrating how rigid the division of labour was. As this quote shows, the rigid division of labour frustrated Kelvin and led him to believe that it broke his relationship with his colleagues.

### *Action 4: Mr George´s attempt to cancel the field trip to Black Hill.*

Field trips were the distinctive activities that represented the object of the department. On this occasion the disturbances arose because of the action of Mr George. This disturbance illustrates how the social science teachers faced the authoritarian leadership of Mr George. The following excerpt arose when Fiona announced that Mr George had cancelled the field trip to Black Hill:

> **Fiona:** Colleagues, I have to tell you that Mr George has decided to cancel the field trip to Black Hill.
>
> **Kristy:** It can't be, we run this activity every year, the students already know that this field trip is on for grades 8 and 9. They expect us to do this activity.
>
> **Paul:** But he knows that Kristy and I went there to get everything organised for the students. We even talked to the mayor of the city. This year we will have a special place to have lunch.
>
> **Fiona:** Mr George wants to have a meeting with us this evening to explain his reasons. It seems to me that the reason might be the funding.
>
> **Kristy:** Paul, we cannot afford losing this activity. We have already planned it and the funding is available.
>
> **Paul:** Of course we can't lose it. But look, we should find an intelligent way to solve this problem. I heard today that he just cancelled another activity in the Science Department.

**Fiona:** But we have to discuss it right now … the meeting with Mr George is in an hours time.

**Paul:** You know that we need a teacher helping us to control the students. It has to be a male; in case we have an accident. We should invite Mr George, so we can get him involved with the activity. He will understand the relevance of the activity for the students and for the department.

**Kristy:** I like it, let's do it!!

**Fiona:** Let's go to talk to him right now!

The interaction reveals that the disturbance took the form of a complaint because Mr George had decided to cancel the field trip to Black Hill. The social science teachers complained because Mr George's action violated their rules and jeopardised a key artefact of the department. The quote shows how the teachers identified the disturbance and found a way to solve it. Paul's leadership practices were crucial to negotiate a solution. After the meeting with the vice-principal, I addressed Paul regarding the outcome of the meeting:

**Researcher:** How was the meeting?

**Paul:** Good, Mr George authorised the activity, and he accepted to come with us.

**Researcher:** Why did you invite Mr George?

**Paul:** It was a strategic move. The purpose was getting him to know what we are doing and showing him that is not a waste of money. They have to see what we have achieved with the students.

**Researcher:** Do you always solve issues this way?

**Paul:** I do not remember, but I can tell you that we are instructed to do so many things every day that we get confused. We have decided to protect our department. When we want to do something we try to find the way to do it. We talked to Mr George and we insisted until we finally reached our goal.

**Researcher:** Do you act collectively?

**Paul:** Yes, because at the end of the day only the teachers know how important the activity is. We are going to insist until we obtain what we need. We are going to act as one body and find an intelligent way to succeed.

These quotes show how the social science teachers led by Paul solved the disturbance. Paul defended an artefact that he considered critical for the object of the department. In this case, protecting an artefact that captured the essence of the department unified the teachers. In this case, Paul negotiated a resolution of the disturbance. He also took joint actions and made concessions. I could see how pleased the teachers were with the outcome of their collective action.

### *Action 5: Mrs Judy interrupts the work of the social science teachers*

The teachers used to spend time planning their activities during the department meetings. However, the new administration prioritised general staff meetings over department meetings. Consequently, the teachers had less time available to discuss department issues and planning. I was observing the teachers in the staff room, when unexpectedly Mrs Judy walked in and addressed Fiona:

> **Mrs Judy:** Fiona, I need the synthesis of the department program.
>
> **Fiona:** Mrs Judy I haven't been able to complete it. It is important that my colleagues and I have a chat about it first and decide what to do, but finding the time to meet has been very hard because we don't have many department meetings now. We have had general meetings to deal with other things, but not what really matters to the department.
>
> **Mrs Judy:** I understand Fiona, but it won't be possible for you to meet together this Wednesday, Mrs Quiroz has an important issue to address regarding training for School Track.
>
> **Kristy:** Mrs Judy I believe that having a department meeting to deal with the synthesis of the department program is more important than a training session. I am not going to attend that general meeting; we need time to organise our field trip too.
>
> **Mrs Judy:** Fiona, Kristy, I understand that you have other things to do, but I need the program synthesis this week.
>
> **Fiona:** Ok. Mrs Judy, I'll try to find the time to talk to my colleagues about this issue.

This excerpt shows how the disturbances took the form of disagreements, obstacles, complaints and criticism. Fiona complained about the scarcity of time to work on their tasks, which shows that there was a disturbance in the division of labour. The disturbance also affected the object of the department as two competing artefacts; namely, the school track and the field trip are revealed. Mrs Judy and the social science teachers disagreed on how the general staff meetings and the department meetings should be prioritised. Mrs Judy interrupted the teachers' activities to insert general staff issues, which caused disturbances. Kristy criticised the way in which the school authorities prioritised general staff meetings over department meetings. Overall, the teachers interpreted this policy as an obstacle to completing department activities which were "more important" than the school activities. Later on, Mrs Judy commented to me: "I have never seen such a level of disagreement and resistance as I have at this school".

The disturbances continued after this incident. I interviewed Fiona about two weeks after Mrs Judy´s interruption:

> **Researcher:** I see you have been very busy these last few days …
>
> **Fiona:** Yes, I have been working on the synthesis of the department program this week, the one Mrs Judy requested.
>
> **Researcher:** Have you had time to coordinate the activity with the rest of the department?
>
> **Fiona:** That is so hard …
>
> **Researcher:** How will you find the time to coordinate with your colleagues?
>
> **Fiona:** I have decided that each one will hand me their contributions and I will put it all together in one document. I am working on the synthesis of my subjects, but I do not want to deliver any document without speaking with Kristy and Paul.
>
> **Researcher:** What has been the outcome?
>
> **Fiona:** I've not received anything from Kristy and Paul. They do not have time.
>
> **Researcher:** But today is Wednesday, it's department meeting day…
>
> **Fiona:** Only on paper. I have just heard in the teachers' room that Mr George proposed another activity during the meeting time. I believe we won't have time to

> meet today, and we really need to. We were going to have this meeting to work on what they have been asking us for weeks, and now they have decided to cancel it. I don't understand, honestly.

Fiona admitted that the scarcity of time was the main hindrance to pedagogical discussion. Instead of working with her peers, Fiona had to complete the activity by herself. Prioritising general meetings left little or no time for the teachers to talk about their teaching practices, which discouraged and confused them. When asked about the work of the department under the administration of Mr George, Paul indicated: "In practice, we don't do teamwork".

Table 4.2 summarises the leadership practices that affected systemic components and introduced disturbances into the social science department.

**Table 4.2**
**Disturbances in the social science department activity system**

| ***Leader*** | ***Leadership practices*** | **Actions** | **Disturbances** | **Components of the Activity system** |
|---|---|---|---|---|
| Mr George | Transactional leadership (Active) | **Action 4**: Mr George´s attempt to cancel the field trip to Black Hill | - Disagreement<br>- Complaint | Artefact<br>Rules |
| | | **Action 5:** Mrs Judy interrupts the work of the Social Science teachers | - Disagreements<br>- Complaints<br>- Criticism | Division of labour<br>Object |
| Fiona (head of department) | Transactional leadership (Passive) | **Action 1**: Fiona asks Paul for help with some questions of her study guide | - Criticism<br>- Disagreement | Rules that stressed the distribution of the resources, the design of artefacts, and the codes of conduct<br>Community<br>Object |
| | | **Action 2:** Fiona interferes in the design of the field trips | - Criticism<br>- Disagreement | Rules that stressed the codes of conduct and distribution of the resources.<br>Community<br>Artefact |

| | | | | |
|---|---|---|---|---|
| Paul-Kristy | Transactional leadership (Active) toward Fiona and Kelvin | **Action 3**: Kelvin proposes a new field trip. | - Misunderstanding<br>- Lack of coordination<br>- Criticism<br>- Rupture of communication | Rules that stressed the rhythms of work, distribution of the resources, the design of artefacts.<br>Artefacts<br>Community |

### *4.3 Summary findings of the leadership practices and disturbances*

In the previous sections, I delineated the activity system of the social science department, described the characteristics of the seven components of their activity system and analysed the disturbances that emerged from five actions which broke critical department rules. In this section, I further analyse the leadership practices of the department based on the literature that was presented in Chapter 2.

I focus on Fiona's and on Paul and Kristy's leadership practices separately. As head of department, Fiona adopted transactional leadership. Paul and Kristy used both transformational and transactional leadership practices to deal with Fiona. However, they adopted shared instructional leadership when dealing with the object of the department. In this case, the characteristics of Paul and Kristy's professional partnership influenced their leadership practices. I conclude that Paul and Kristy´s leadership and Fiona's lack of expertise as head of department and teacher weakened the professional relationships inside the social science community.

#### *4.3.1 Paul and Kristy's transformational leadership towards Fiona*

Drawing on the leadership practices that have already been presented in this chapter, I describe now the main characteristics of Paul and Kristy's transformational leadership:

*(i) Inspiring Fiona through their personal example.* In Chapter 2, I described how transformational leaders act as mentors and pay attention to the developmental, learning, and achievement needs of each follower. Paul and Kristy positioned themselves as the discipline experts for the rest of the teachers to follow. Paul was often referred to as an "advanced professional". Not only his colleagues, but also his students showed respect for his discipline knowledge.

*(ii)Reinforcing Fiona's competences and skills*. Initially, Paul and Kristy acted collectively to help Fiona become a competent head of department. They knew that Fiona had no administrative experience and that she needed advice about the school procedures. For instance, they constantly reminded her of the responsibilities of her position and what the department expected of her. Fiona acknowledged their professional competencies and followed their advice. In addition, Paul and Kristy were concerned about their colleagues' teaching skills and promoted their department object by constantly improving teaching and learning processes. This benefited the students and kept the reputation of the department high.

### *4.3.2 Paul and Kristy´s active transactional leadership*

As it was presented in Chapter 2, scholars identify two forms of transactional leadership: active transactional leadership and passive transactional leadership (Bass & Avolio, 1994; Northouse, 2010). The main characteristics of Paul and Kristy's active transactional leadership were:

*(i) Taking corrective action when Fiona violated the department rules.* As active transactional leaders, Paul and Kristy were the guardians of the department rules that they actively monitored. Any rule violations

or mistakes in Fiona´s actions were quickly sanctioned negatively. Examples of such sanctions identified in this chapter included criticism of Fiona, exclusion of Fiona from important discussions, and opposition to her proposed changes.

*(ii)Taking a position of power and authority above Fiona*. Paul and Kristy adopted an attitude of superiority towards Fiona. Paul believed that the quality of the class materials was determined by the professional competencies of the teacher. Thus, Paul did not trust Fiona´s class material due to her poor discipline knowledge. However, he considered Kristy as an authority in discipline knowledge, so he trusted her. In turn, Fiona readily admitted that she was not an authority in discipline knowledge and left instructional matters to Paul and Kristy. Fiona was not familiar with many of the department's procedures (the rules that governed the artefacts), which prevented her from getting more involved and caused her to rely on Paul and Kristy. She believed that delegating instructional matters to them was a more efficient and effective way to accomplish tasks. Thus, by positioning themselves as experts Paul and Kristy made decisions involving instructional processes. As transactional leaders, Paul and Kristy told Fiona of her responsibilities and the tasks she had to accomplish. Fiona´s actions were reduced to following instructions and she depended on Paul and Kristy's guidance for the successful completion of her administrative tasks (i.e. organising transportation for the field trip). Their practices contributed to aggravating disturbances.

*(iii) Obstructing change and creativity*. Fiona and Kelvin were not expected to try out creative solutions or to advance innovations. Fiona complained about how hard implementing innovations was. For instance, Fiona's attempt to design a new field trip was taken as a violation of the rules. Paul and Kristy accused her of starting an

activity that had not been included in the department lesson plan. Thus, as transactional leaders, Paul and Kristy tended to overemphasise the negative aspects of Fiona´s leadership practices. This emphasis contributed to aggravation of disturbances.

*(iv) Having their own department object.* As transactional leaders, Kristy and Paul pursued their personal perspective of the object of the department (one-sided, narrow view of the world). They saw themselves as the keepers of the former department object of improving the teaching and learning techniques of the department. They did not consider the contributions of others to construct a new department object and there was little dialogue between all parties. The disagreement with Fiona and the misunderstanding with Kelvin ruptured communication channels that aggravated the personal relationship inside the department.

### *4.3.3 Paul and Kristy's shared instructional leadership practices*

When dealing with the object of the department, Paul and Kristy adopted a shared instructional leadership. The main characteristics of their practices were: working together to improve teaching techniques, their close professional partnership, their professional values and frequent interactions. Each of these characteristics is discussed in turn.

(i) *Working together to improve their teaching techniques*. Paul and Kristy were focused on improving their teaching techniques in order to achieve the object of the department. They were doing their Master of Education Science degree and they used to bring their papers and books to the school to discuss them together, which richly improved their discipline knowledge and their capabilities to develop new

artefacts. Paul tended to protect the artefacts that were aligned with the object of the department (i.e. the field trip to Black Hill). In other words, protecting the interests of the department unified the teachers behind an artefact that captured the essence of their object.

(ii) *Close professional partnership.* Paul and Kristy had known each other for many years. They shared professional and personal values that consolidated their relationship. Regarding their competencies, they knew that their professional capabilities were very much the same, which increased their mutual trust and facilitated working harmoniously. They were not jealous or critical of each other and solved their problems based on their mutual trust and loyalty.

(iii) *Professional values such as teaching experience and discipline knowledge stimulated their professional partnership*. Paul was acknowledged not only as a knowledgeable teacher, but also as an influential leader. Paul was the cultural leader who assumed the role of 'high priest', seeking to define, strengthen and articulate those enduring values that would give the department its unique identity (Sergiovanni, 1984). He shared the same values with Kristy and both pursued discipline knowledge and high education quality, which encouraged them to work together.

(iv) *Using dialogue to improve teaching and learning practices*. Paul and Kristy saw themselves as a community of learners characterised by experimentation and reflection. They believed that the department artefacts were the outcome of their collaborative work. They were constantly searching for new ideas and methods to improve their teaching practices; they exchanged their findings, designed new artefacts and implemented them together.

### *4.3.4 Fiona´s passive transactional leadership practices*

Fiona adopted passive transactional leadership practices within the social science department. The main characteristics of her leadership were: coordinating and aligning the department activities with the intended object of Mr George; supporting Kristy, Paul and Kelvin in regards to preparation of class materials and field trips; and her acceptance of the rules imposed by Paul and Kristy. Each of these characteristics is discussed in turn.

(i) *Coordinating and aligning the teachers' activities with Mr George's intended object*. As it has been described before, Mr George's intended object for the school was focused on improving the students' performance in the SIMCE and PSU national tests, while Kristy and Paul's shared object was to improve teaching and learning processes. Thus, Fiona understood that the main role of her position was acting as an intermediary between Mr George and the social science teachers. She was in charge of informing the vice principal's decisions to her colleagues and always reminded them of the tasks that needed to be completed in order to achieve Mr George's intended object. Her leadership was focused on coordinating and aligning the department activities so that her colleagues would stick to the plan traced by the vice-principal.

(ii) *Supporting departmental activities*. Because Fiona's main role was aligning the teachers' tasks with Mr George's intended object (an administrative function), her contribution to academic activities was limited. She acknowledged Paul and Kristy's expertise and discipline knowledge and accepted their leadership of the department regarding all its academic activities. She identified herself as the "pacemaker" of the department and her colleagues saw her as a helper in all their academic activities. This role also was an outcome of Fiona's poor discipline command. Thus, her leadership practices concentrated on

scheduling activities, reminding her colleagues of the milestones of the department lesson plan, managing resources and being the communication channel between the vice-principal and the social science teachers.

(iii) *Department rules constrained Fiona's leadership practices.* Fiona's practices were limited by the implicit rules that Paul and Kristy promoted. Overall, these rules determined the department procedures regarding organisation of academic activities and development of teaching techniques. These rules conferred them authority to make decisions on instructional matters. Moreover, they considered themselves to be the guardians of the department's object and Fiona was not supported to change the existing artefacts of the department.

In summary, the social science department encompassed four types of leadership practices: transformational leadership, active transactional leadership, instructional leadership and passive transactional leadership. In addition to its internal instability, the department was constantly constrained by the new policies promoted by Mr George. The everyday activities of the department were disturbed by the general staff meetings and by the imposition of new school objectives. Teachers felt confused and discouraged. In this context, Paul's leadership brought about a non-confrontational way to deal with the authority's decision. The department stood together to defend the field trip (artefact), which incarnated their department object. This was the only occasion when the department acted as a unified body to defend and preserve a department artefact.

# CHAPTER 5

## The Leadership Practices that Brought Disturbances into the Math-Science Department

### 5.0 Introduction

In the previous chapter, I focused my attention on identifying, describing and analysing the activity system and disturbances inside the social science department. In this chapter, I focus on identifying, describing and analysing the activity systems and disturbances inside the math-science department. In doing so, I examine how several leadership practices brought disturbances into the merged department. The math and science departments merged in 2009, one year before I started this research. In this chapter, I delineate the two activity systems of the merged department (i.e. math and science) and identify the leadership practices that brought disturbances into the department.

Several findings are supported by the data in this chapter. The examination of the seven components of CHAT revealed the instability of the merged department. The science and math teachers continued functioning as two separate activity systems. The head of department was unable to influence both communities to negotiate a new-shared object that held together the new department.

Chapter 5 is organised as follows. In section 5.1, the activity system of the math-science department is delineated using the seven components of the activity system, namely: subjects, objects, artefacts, outcomes, rules, community and division of labour. Section 5.2 analyses seven actions of the different leaders, namely: Action 1, Sam attempts to cancel the Science Expo; Action 2, Mr George changes academic objectives of optional subjects; Action 3, Mr George cancels the field trip to the "Interactive

Museum"; Action 4, Sam demands the teachers complete school forms; Action 5, Mr George does not respect the Wednesday meetings; Action 6, Mr George establishes deadlines to release assessment grades; Action 7, Mr George installs surveillance cameras and redistributes the block schedules. Several disturbances were caused by these leadership practices, which are also examined in this section. From the perspective of CHAT, the purpose of the analysis of disturbances was to find out the recurring problems and persistent tensions that point to deeper systemic contradictions, which are presented in Chapter 6. A summary and discussion of findings in section 5.3 completes the chapter.

## *5.1 Seven components of the math-science department as an activity system*

Seven components of the activity system are utilised here in order to characterise the math-science department: subjects, objects, artefacts, outcomes, rules, community and division of labour. I analyse each of the seven components herein.

### *5.1.1 The subjects*

As defined in Chapter 2, subjects are individuals or groups of individuals involved in the school departmental activities. All of the subjects identified in Tables 5.1 and 5.2, with the exception of Mark and Andrew, are teachers with vast working experience. Sam, Monica and Maryann had acted as head of the former science department on separate occasions. Tables 5.1 and 5.2 identify ten subjects, their community involvement and the division of labour.

**Table 5.1**
**Teachers working in the math department**

| Math teachers | Role Description |
|---|---|
| Sam | Sam was the former head of math and newly appointed as HOD of the merged math-science department. He had 25 years of work experience and was the second most experienced teacher of the English School. He was one of the founding members of the high school. |
| Mark | Math teacher. He had worked at the school for 3 years. This is the second school in his career. |
| Andrew | Math teacher. He had worked at the school for three years since he finished university. |

**Table 5.2**
**Teachers working in the science department**

| Science Teachers | Role Description |
|---|---|
| Monica | Science teacher and former head of science department (2004-2007). She had been working at the school almost from its foundation. Monica was hired when Maryann was head of department. In 2008, Monica was appointed as head of seniors. At the time of the data collection, Monica had been demoted from her position as head of department and head of seniors. |
| Maryann | Science teacher, former head of science department (1995-2003). She had been working at the school from its foundation. She formed and founded the science department. According to her, she was demoted from her position as head of department because the school authorities had lost their trust in her. Maryann was a doctoral candidate in sciences. |
| Sue | Science teacher, she had been working at the school for 10 years. Sue is also a doctoral candidate in science. |
| Nathan | Nathan had been working at the school for 15 years. He is the science laboratory assistant. Nathan had gained much valuable experience at the school, which was acknowledged by his colleagues. |
| Matthew | Science teacher who had been working for 10 years at this school. Matthew also worked for the Ministry of Education as national adviser in science curriculum. |
| Michael | Science and technology teacher who had been working at the school |

| | |
|---|---|
| | for five years. Michael was the only teacher who combined his work at the English School and at a public school. He was teaching only high school students and is much more familiar with this type of student than David, the other science and technology teacher. |
| David | Science teacher who had been working for ten years at the school. David taught technology to the junior students and did not teach lessons to the high school students. He had a closer professional relationship with his colleagues from junior than with the high school teachers because he spent time preparing his teaching resources with the junior teachers. |

One of the most interesting features of this department is that Mr George merged the math and science departments and appointed Sam, the former head of the math department, as the head of the new merged department. However, I observed how the science and math teachers continued functioning as two separate activity systems. From a CHAT perspective, it is expected that having two activity systems (i.e. math activity system and science activity system) operating within one department will create disturbances (Foot, 2002; Kaptelinin, 2005).

### 5.1.2 *Contrasting conceptualisations of the object of the math-science department*

In Chapter 2, objects were conceptualised as the motive and direction of the activity (Engeström 2000a). It is acknowledged that the development of a new object is a problem area in which different groups are likely to have different perspectives, motives or values. For instance, Sam believed that the department should work collectively on making math easier to understand, but Mark believed that they should work on preparing the students for the math subjects that they will study once they get to university. In CHAT terms, the different "perspectives" that participants

construct "potentially name a place where systemic contradictions become manifest" (Holland & Reeves, 1994, p.19). In this section, I present the teachers' contrasting perspectives in building the object of the department.

### *a. The math activity system*

Before the merge, the main object of attention of the math department was the need of a shared understanding of how the discipline should be taught in the classroom. Sam's leadership practices as the head of department were focused on influencing his colleagues to produce that shared understanding. In CHAT terms, this was the prevailing motivation that energised the activity of the math community. When asked about the motivation of his leadership, Sam indicated emphatically:

> We had a consolidated department with German and Elizabeth [former teachers]. We had built an excellent relationship and open communication channels. We were friends and we shared a vision of how to teach mathematics. We had put a stamp on the math department. Now, I am dedicated to form a new department with these two colleagues. To date, we have not been able to create a distinctive image for the department due to low work stability and the lack of experience of the new colleagues …

Sam acknowledged the changes that had taken place within the math community after the merger. Sam reported that he could speak honestly, but respectfully with German and Elizabeth (his former colleagues) and they could disagree with each other without jeopardising relationships. After the merger, Sam tried to re-build this same kind of working relationship with the two new young teachers, who had little experience. Thus, when Sam (the most experienced teacher of the department, see Table 5.1), Andrew and Mark (the two newly hired and novice teachers) met, different definitions of the object appeared. The following comments of the math teachers illustrate this collision:

> **Sam:** As math teachers, we have to teach our discipline in a manner that students can understand our lessons and this requires personal work with each student. When I teach mathematics I expect my students to question many things that aren't true. In this school there is very little questioning among students. My idea is that students may develop their critical thinking gradually, but progressively.
>
> **Mark:** My job is about preparing my students for their forthcoming university studies. My experience as a university tutor in math subjects and my work experience as an engineer enable me to prepare my students for the PSU test and for their future university life.

In this case, Sam's object for the math department was developing personalised teaching and improving teaching techniques; while Mark's object was focused on covering the math content that will help his students to succeed once studying at university. Interestingly, Sam and Andrew shared a similar object of the department. In this regard, they indicated:

> **Sam:** Andrew and I agree on many matters, we are very close … we share the same opinions about how teaching math should be conducted. For instance, we have similar ideas about how to structure our classes … but organising a class with Andrew is much harder to me, because he uses different teaching techniques. In my opinion Andrew teaches too much theory and not many practical examples, he needs to include more down-to-earth examples and exercises in his lessons. He is very theory driven. In my opinion, teaching math requires much more practice questions and guided learning.
>
> **Andrew:** When I have a question I approach Sam and ask him, "Sam, I am preparing a test with these questions, what do you think? He replies: "You know, I think this test is too long … why don't you drop this exercise and replace it with this one?" He has taught me to work cooperatively in teams and to coordinate my activities with my colleagues. I feel supported by him.

In short, there were two different competing objects among the math group. Sam's leadership influenced Andrew's definition of the object and as a result they had a shared object. Sam believed that the department should collectively work on making math easier to understand by improving teaching techniques, but Mark believed that they should work on preparing the students for the math subjects that they will enrol in at university.

### *b. The science activity system*

The main object of attention of the science group was their desire for constantly improving their teaching and learning processes. They were focused on making the teaching of the scientific method more meaningful to the students and on developing varied students' skills through it. They were also trying to develop a distinctive characteristic for the science group. As Monica remarked:

> The main characteristic of our working style was our desire for permanently improving our activities and for finding something that did not make sense to us and needed to be fixed. We tried hard to attain meaning to everything we did.

In contrast to the math group, the science teachers commented how their activities were consistent with their object. Monica's leadership practices unified the teachers' understanding of their object. The following excerpt from my interviews with Monica illustrates her leadership role:

> When I joined the department, Maryann had a different vision of the science education, that is, the formal scientific method. The children had to learn it. We used to have a practice activity for the scientific method topic in the classroom. She was always talking about the scientific method … so one day I asked if everyone was happy about teaching the scientific method the way we were doing it and we started to discuss the issue. We agreed that there would always be a research problem in our student guides. It is important for students to develop the idea of research, but we would not have all the steps of the scientific method in every student guide. These are things that the students need to learn progressively. We changed our view, the scientific method was not the end of our teaching, but it was the means for developing other skills …

Monica's leadership emphasised regular dialogue among peers and critical thinking in order to improve their practices. This is consistent with De Lima (2001) who indicates that when teachers know each other's work and are helpful to their colleagues, a sense of efficacy and community is fostered. Similarly, Siskin (1994) proposes that social cohesion is an important attribute of those departments that improve their practices. Figure 5.1 illustrates the objects of the math and science activity systems.

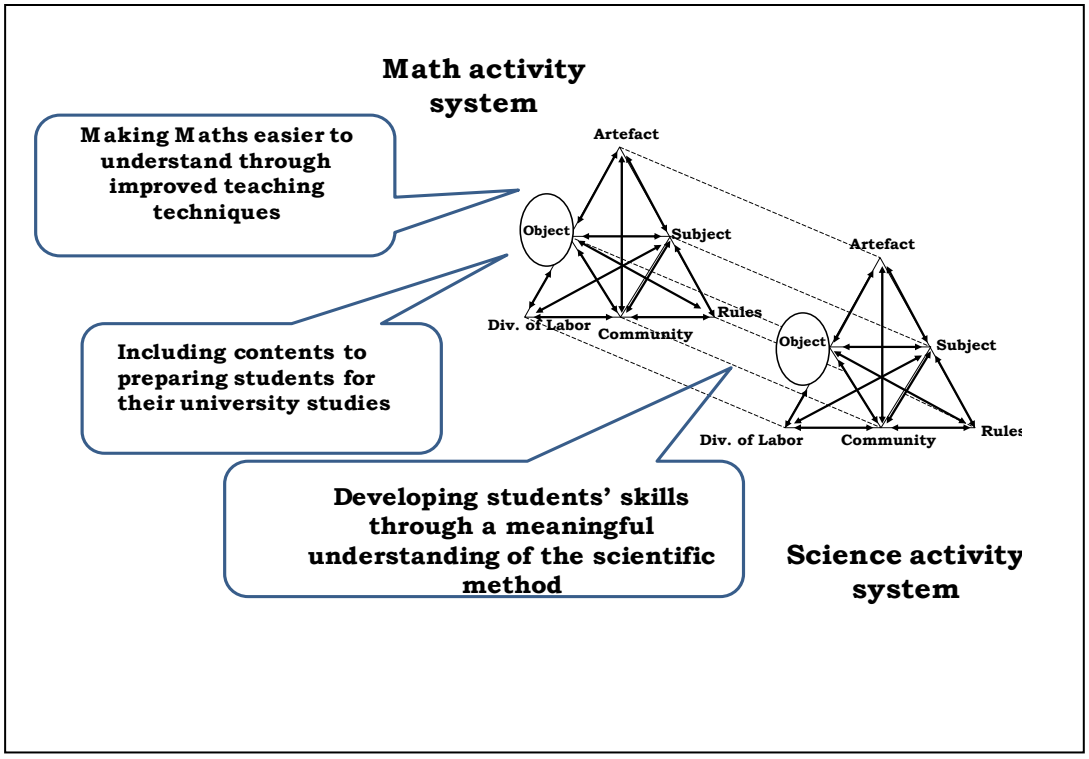



***Figure 5.1*** **The objects of the math and science activity systems**

The two triangles representing the activity systems of math and science have been connected by dashed lines to represent the merged math-science department. In summary, there were three main objects within the merged department: "making math easier to understand through improved teaching techniques", "including university-level content to prepare the students for their tertiary education" and "developing varied students' skills through a meaningful understanding of the scientific method". Thus, the teachers prioritised different definitions of the object, and they focused their efforts on achieving what they believed to be the most important object of the department. As a result, the development of the artefacts that each group utilised was affected; this is examined in the next section.

### *5.1.3 Artefacts utilised to achieve the object*

Artefacts are the means to mobilise participants for the purpose of improving collaborative activity and instructional processes (Chapter 2). Artefact construction implies a collaborative and dialogical process in which different perspectives meet and merge. For example, both the science and math teachers constantly referred to the annual department lesson plan and the design of extra class material as the fundamental artefacts which gave coherence to their teaching practices. The annual department lesson plan defined how the teachers delivered the subject content to the classroom and also the time allocated to covering these content. I analyse the artefacts of the math and science activity systems separately.

#### *a. The math activity system*

The math teachers prepared their own class resources under the influence of Sam. They trusted Sam's experience and directions to design their resources for extra lessons. As one math teacher indicated:

> I respect Sam a lot; I look up to him for his knowledge and experience. He is always happy to give advice, always seeking for the chance to help others.
>
> When I have a question I approach Sam and ask him, "Sam, I am preparing a test with these questions, what do you think?" He replies: "You know, I think this test is too long … why don't you drop this exercise and replace it with this one?" (Andrew)

I observed that the annual department lesson plan and the extra class resources (e.g. study guides) were the main artefacts for the math teachers. Rather than being an opportunity for innovation and collaborative thinking, the annual department lesson plan was used as a method of "quality assurance" which in practice was also used as a means

of control: *"*They are means of control to monitor how we put into practice the decisions of the department*"* (Mark, math teacher).

### *b. The science activity system*

The annual department lesson plan of the science group was the means by which they organised and scheduled their teaching activities, assessed the effectiveness of these activities, improved teaching techniques through dialogue and consensus, and ensured the quality of their teaching and learning processes. Before the departments merged, the science teachers were working collaboratively. Rather than being satisfied with the pattern of the annual department lesson plan suggested by the school, the science teachers had created their own lesson plan according to their own criteria. As Maryann said, "we decided to work in designing our own lesson planning that would serve our objectives". This plan constituted a cycle of collaborative thinking (Engeström, 1998).

The science teachers identified the "Science Expo" as another important artefact. The genesis of this expo was the fruit of Monica's leadership. She encouraged everyone to participate in a school-based "Science Project" that would highlight the students' research work. This activity aimed to provide students with an appropriate setting to put into practice the science knowledge that they had acquired over the year. According to the teachers, this activity was consistent with the spirit of the department. The "Science Project" and the "Science Expo" had been constantly reviewed and updated by the science teachers. Figure 5.2 illustrates the artefacts of the math and science activity systems.

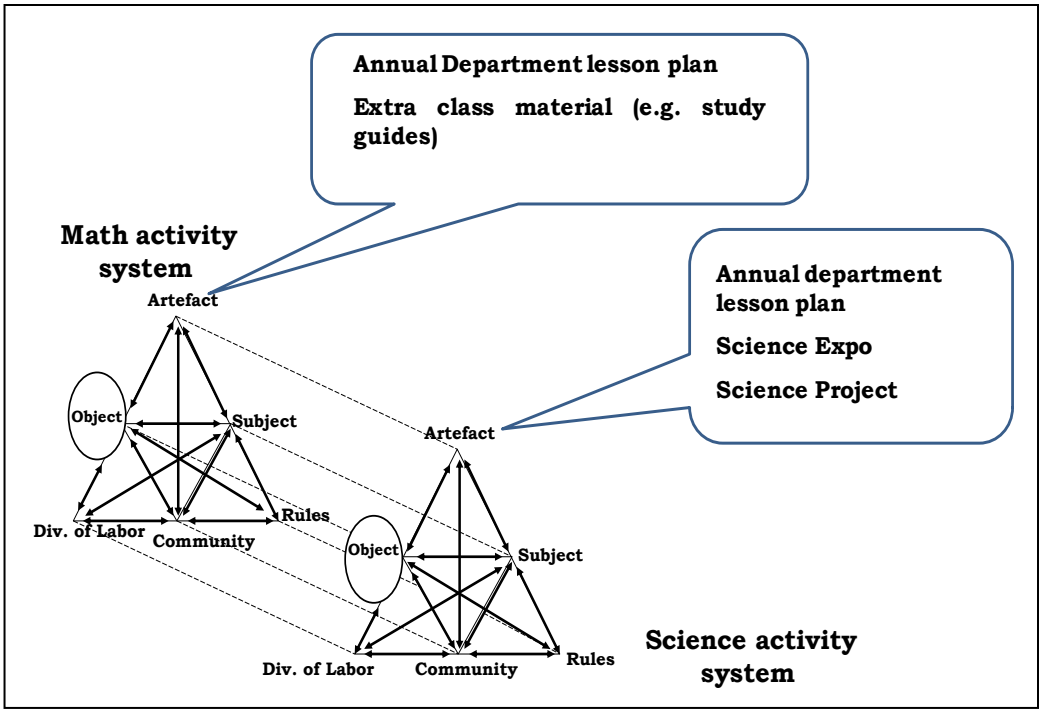



***Figure 5.2*** **The artefacts of the math and science activity systems**

It is interesting to highlight that the object of the science activity system affected what artefacts were used to teach in the classroom. The selection of artefacts was seen by Monica as an opportunity to encourage the teachers to collaborate. As Monica said:

> I always thought that teaching science could not be so structured. I started to read about that kind of approach and talked to people who thought like me. Then one day I asked if everyone was happy about teaching the scientific method the way we were doing it and we started to discuss the issue. We agreed that there would always be a research problem in our student guides. That it is important for students to develop the idea of research, but we would not have all the steps of the scientific method in every student guide. These are things that the students need to learn progressively.

Instead of teaching the scientific method as an end in itself, the science teachers decided to use the scientific method as a means to "develop other skills", which affected in turn the design of their artefacts. When the object was expanded the former artefacts were found obsolete and did not fulfil the new teaching requirements, so they were modified. This illustrates how

the artefacts of an activity system can be expanded by leadership practices: Monica—the leader—initiated the discussion with her colleagues and she exerted influence over them and encouraged them to re-think how to teach science (i.e. "I asked if everyone was happy about teaching the scientific method the way we were doing it"). Then, she promoted a collective discussion inside the department until they finally agreed about how to teach science. Thus, Monica´s leadership practices were characterised by challenging the former teaching processes (i.e. "I always thought that teaching science could not be so structured"), inspiring everyone to search for a new object (i.e. "We started to discuss the issue") and encouraging others to participate collectively to find the solution (i.e. "We agreed…"). This, in turn, affected the design of their artefacts (i.e. the student guides).

### *5.1.4 Outcomes*

Outcomes are the result of one or more subjects acting on an object through mediating artefacts and socio-cultural elements of an activity system (Chapter 2). The outcomes of the math activity system are modest compared to the science activity system, which is understandable if we consider that the math teachers did not share a common object, had recently incorporated two novice teachers, and did not show much interest in developing artefacts together. I summarise briefly the outcomes of both activity systems here.

#### *a. The math activity system*

As it was stated in the previous sections, the math group pursued two different objects; one emphasised making math more meaningful and easier to understand and the other takes math lessons to a university level. The math teachers acted on different objects through different

mediating artefacts (they do not meet up together to design and produce their practice questions). In CHAT terms, the outcomes are not observable because where there is no collaborative work, the subjects do not agree on the desired outcomes or on the students' achievements. Moreover, the outcomes seemed to depend on Sam's personal commitment to re-build a new math group. Engeström and Saninno (2010) refer to "desired outcomes", which are represented here by Sam's attempt to improve staff and student performance.

### *b. The science activity system*

The outcomes of the science activity system refer clearly to the teachers' and students' achievements: students learned the scientific method as a procedure with real-world applications and teachers have gained flexibility in the way they teach science, they had learnt to work together and had increased professional development. These achievements were recognised by all science teachers. As Monica summarised:

> We are currently working on our practice questions; most students learn the scientific method as a procedure with real-world applications now. I want the students to focus on something specific, for example collecting data. We have gained flexibility in the way we teach science through dialogue, never by the imposition of ideas. The discussion is informal. Once we have made the decision, I remind my colleagues of what techniques we agreed to include in our lessons during our previous discussions …

This quote shows how Monica´s leadership practices of inspiring and encouraging the teachers to participate in improving their teaching processes opened the opportunity through dialogue for the professional development of the science teachers. These dialogues permitted change to occur and potentially had a positive impact on their teaching and learning practices. Discussing pedagogical techniques helped the science teachers achieve their desired outcomes. This quote illustrates how Monica

influenced changes in the outcomes of the department by interacting with her colleagues, including drawing upon her colleagues' ideas, creating cohesion and facilitating shared knowledge. According to Monica, the artefacts were the fruit of collaborative working, "through dialogue" and never by imposition. Interestingly, she could vary her leadership practices from promoting dialogue and participation to monitoring her colleagues' progress towards accomplishing their tasks. Figure 5.3 illustrates the outcomes of the math and science activity systems.

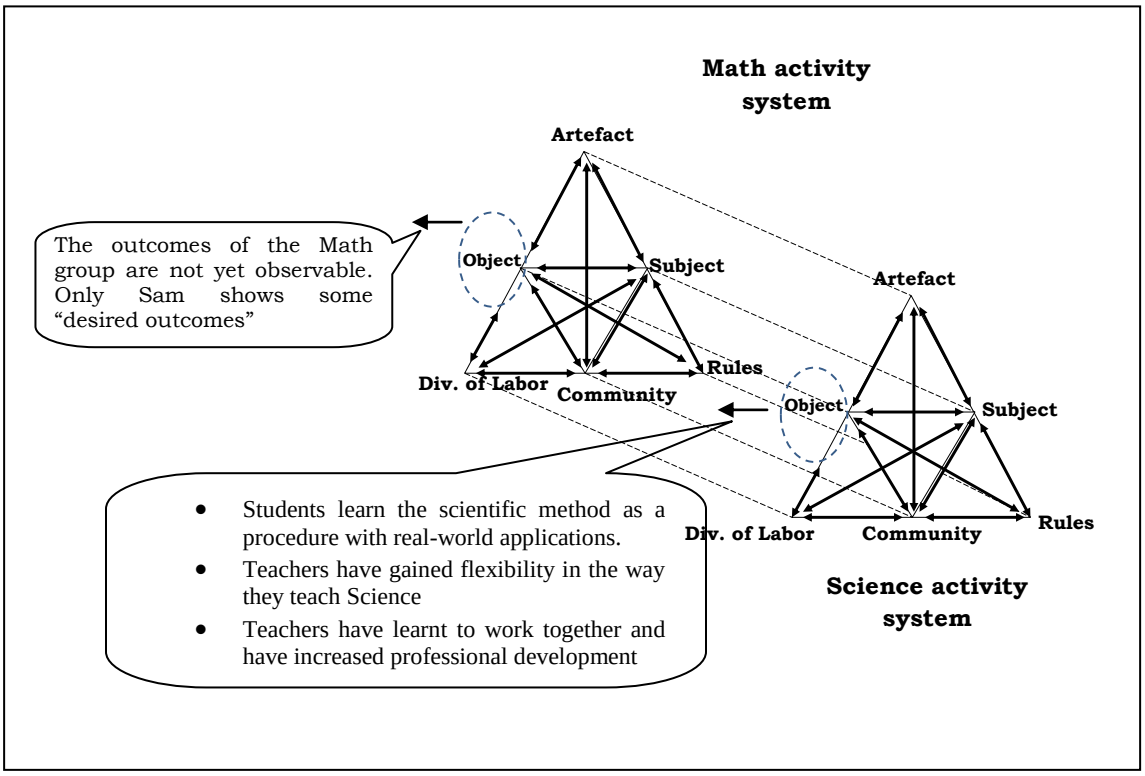



***Figure 5.3*** **The outcomes of the math and science activity systems**

In summary, the outcomes of the merged math-science department were produced separately by the functioning of each group as an independent activity system. This is not surprising because each one pursued different objects, which have been identified under the leadership practices of Monica (science teacher) and Sam (math teacher).

### *5.1.5 Rules that governed the actions of the math and science activity systems*

As it was discussed in Chapter 2, explicit rules are publicly accepted regulations which are written and established through formal procedures (e.g. educational policies, guidelines); while implicit rules are informal regulations that in varying degrees can affect how an activity takes place. This section examines the varied explicit and implicit rules within the math-science department.

#### *a. Math activity system*

Overall, the rules of the merged math-science department regulated: the temporal rhythms of work and the teachers' codes of conduct (Engeström, 2001). Five rules governed the activities of the math community. All of them were implicit rules that ultimately mediated the teachers' effectiveness in achieving their object. Each one of these rules is now discussed in detail.

#### *i. Implicit rules that regulated the temporal rhythms of work*

Temporal rhythms of work refer to the alignment and coordination of the teachers' activities in order to achieve their object. The following rules governed the temporal rhythms of work of the math teachers:

*Rule 1*: The math staff room was the place where the teachers can better concentrate to work and make the most of their time.

The math staff room was located far away from the general staff room and from the science laboratory. Because this room was allocated exclusively for the usage of the math teachers, their chances for interacting with other

colleagues were limited. Moreover, they preferred to stay in this "private space" rather than spending time with others. Thus, there was a physical and a personal isolation. During my observations I recorded that the math teachers worked in the math staff room, marking exams or preparing lessons. They said that they needed privacy to complete their tasks. A typical comment from the math teachers was:

> I prefer to work over here in the department staff room than in the general staff room. Over here, I can focus on preparing practice questions and other class materials. The teachers' room is more relaxed, you see teachers having a cup of coffee, and that doesn't help much to do the job, here I feel that I can make the most of my time … (Andrew, Interview)

This preference was mostly expressed by the new teachers. Yet this practice isolated them from the large school system. Sam, the head of department said: "Sometimes, they did not hear some important announcements about school functioning, just because they do not visit the general staff room". In the same way Monica did, Sam's leadership practices switched from supporting and advising his colleagues to monitoring their work. Thus, this was an implicit rule which affected the temporal rhythms of work of the math teachers. It governed the types of interactions that could take place among the teachers and it prevented them from participating effectively as members of the merged department and of the school community.

*Rule 2:* Sam was the experienced and knowledgeable leader who guided the teaching practices of the novice teachers.

The acknowledgement of the vast professional experience of Sam affected the work of the math teachers. The following quotes were typical in this regard:

> **Mark:** Sam is much more experienced than we are, and that helps us make the necessary adjustments more easily, because we are always asking him questions and getting his advice
>
> **Andrew:** I know that everything he [Sam] says is in the best interest of the department. For instance, when you are just getting started with your career, you are likely to make mistakes … Well, Sam makes me learn from my own mistakes … he says: you know, you could have done this or that to get better results. So every time I feel unsure about a decision I have to make, I consult with him first … Sam is my leader, he is transparent. Even when he is wrong, I follow him anyway

The quote shows that the novice teachers were very respectful of Sam as their leader; he was a role model for his followers. Sam helped the new teachers to find and embrace the object of the department individually and collectively (Hallinger & Heck, 2003). He encouraged the novice teachers to make sense of the working environment they had recently joined. Through his advice, Sam regularly influenced how the novice teachers prepared their lessons and class materials, how they adjusted them and improved them. This was an implicit rule that affected the temporal rhythms of work.

*Rule 3:* Sam motivated the autonomous work of each teacher.

The leadership practices of Sam tended to allow the teachers to function autonomously. He agreed with the two novice teachers on what was needed to be done and then he let them enact their roles. Andrew spoke at length about this:

> Sam is a leader who lets you do things. He asks you if you are able to do this or that. He trusts that when you agree to do something, you are not going to let him down. He is not the kind of person who reminds you of what you have to do. This is the way we work in the department.

This quote shows how Sam delegated responsibility and trusted the math teachers to keep their agreements and completing the appointed tasks

successfully. He did not check on his colleagues all the time. This was one of Sam's usual practices and his colleagues were aware of it.

### *ii. Implicit rules that governed the codes of conduct*

Codes of conduct represent default assumptions about behaviours. Violation of codes of conduct frequently leads to a drop in valuation, trust and authority (Mills & Murgatroid, 1991). The following rules governed the codes of conduct of the math community:

*Rule 1*: Friendship and trustworthy relationships were required to improve teaching and learning processes.

This rule consisted of developing personal relationships of friendship and trustworthiness. According to Sam, one of the characteristics of the former department was the closeness and friendship among teachers. He affirmed emphatically: "We were friends". In interviews with Sam about the importance of establishing friendship inside the group, he indicated:

> I believe that having a friendly environment is very important to our department. But this environment is much harder to keep now that we are so busy and have little time to meet up. I still chat to my colleagues about the most relevant issues and try coordinating our activities. Once I have talked to them, I rely on them and assume that they are going to work according to our agreements …
>
> I have observed my colleagues' lessons, and I've seen what teaching methods they use. I tell them what I think of their classes, we talk, we agree on how they are going to teach math …

This quote reveals that according to Sam, developing friendships encourages dialogue and conversation among teachers. Friendship and trustworthiness were seen as crucial to have a good rapport from which to sustain agreement. This is an implicit rule within the math group and a frame for the development of acceptable interactions with other community members.

*Rule 2:* When a math teacher makes a mistake, they receive help and support from their colleagues.

Sam´s perspectives of his leadership practices link together friendship, dialogue and trust. The math teachers consciously implemented this rule in their daily practices. I had the opportunity to review old meeting notes of the math department and I noticed the manner in which the teachers solved their problems before the merger. They used to negotiate the best course of action. For example, in one of the meetings the head of department brought up the students' poor class attendance as a discussion topic. The teachers concluded that the poor communication between the new teachers and the students was a plausible reason for class absence. The math teachers decided to work on strengthening the new teacher-student relationship. In the same way, Sam as the leader of the math group continued using dialogue to build a new object in the group. As Sam commented:

> There are conflicting approaches within the department regarding how to teach math. I have observed my colleagues' lessons, and I've seen what teaching methods they use. I tell them what I think of their classes, we talk, we agree on how they are going to teach math. I trust that they are going to respect our agreement.

When new teachers commented on Sam´s leadership, they mentioned that his leadership practices had facilitated the creation of mutual trust, which led to more transparent relationships: "I can say for instance, hey I made a mistake here, and I know that help will come up soon. You feel more secure at work, it makes working more pleasant and I'm sure this affects your performance in the classroom too" (Andrew). In short, there was some tolerance for mistakes and sense of solidarity among the math teachers, which helped them to engage in departmental activities because they knew that they would not be discriminated or punished. They helped and supported each other which created a virtuous circle of trust.

### *b. The science activity system*

Five rules governed the activity of the science group. All of them were implicit rules that ultimately affected the teachers' effectiveness in achieving their object (i.e. developing students' skills through a meaningful understanding of the scientific method). Each one of these rules is now discussed in detail.

#### *i. Implicit rules that regulated the rhythms of work*

Rhythms of work punctuate the continuous flow of activities with periodically recurring events. Over time teachers create rules to perform their work (Mills & Murgatroid, 1991). The following rules governed the rhythms of work of the science teachers:

*Rule 1:* The science laboratory was the teachers' preferred place for undertaking both formal and informal work.

The science laboratory was not only the space where they kept their class materials or students' projects, but also the place where they interacted and built their personal and professional relationships. The laboratory was located near the general staff room and the school's largest recreational area, which also allowed them to interact with other colleagues and with the students. This rule was evident when Sue commented:

> Because we have the lab, we can get together even during the breaks. It is very likely that Maryann or Monica already know what contents I am covering with my students, because I have left the students' projects and models in the lab. In the lab the teachers come and go, and see them. Even the class notes are kept in the lab. You can see what a teacher is teaching, this or that subject. If someone likes certain aspects of a student guide or other class materials, that someone can use them in his/her own class. This is part of our everyday life at work …

This quote reveals that the laboratory room was a place for interaction. The layout of the laboratory enabled science teachers to be aware of how the content of different subjects was being taught. Since the laboratory was so large, the room was a comfortable, common work area for gathering.

*Rule 2*: The teachers' work was marked by their enthusiasm.

The enthusiasm and commitment of the science teachers was revealed in the usage of words like "comfortable", "pleasant", "collegial", "affinity", "motivated", "happy" and "confident" when referring to their working environment. The following comments are evidence of this rule:

> **David:** I feel quite comfortable working in this department. The working environment with the colleagues is pleasant. I can see that all of us get along very well, we are very close.
>
> **Nathan:** We used to catch up during the breaks and talk about how our classes were going during the day. That was the most important characteristic of our activities, and Monica always promoted it. If anyone is in trouble, we have to go and help … when you work like this, you feel better valued and better considered, which makes you feel much more confident about your work, about doing things right.
>
> **Monica:** Our distinctive characteristic is that we work together, we are connected and organised and motivated to work enthusiastically … we are happy to give the best of ourselves for our department.

The quote also reveals that if the science teachers felt better valued, they would feel more motivated to give the best of themselves for their department. Interestingly, they were committed to "their department", not to the school authorities or to the merged department.

*Rule 3*: The science teachers constantly reviewed and evaluated their activities.

The science teachers constantly reviewed and improved their activities. They focused their discussion on how effective their artefacts were in their teaching practices. Monica indicated:

> The main characteristic of our working style was our desire for permanently improving our activities and for finding something that did not make sense to us and needed to be fixed. We tried hard to attain meaning to everything we did.
>
> … We have gained flexibility in the way we teach Science through dialogue, never by the imposition of ideas. The discussion is informal …

The science teachers were aware that Monica's leadership practices had helped to achieve a social cohesion inside the department that was focused on improving their practices. They mentioned the Science Expo as an example of an artefact which was improved by the teachers.

### *ii. Implicit rules that governed the codes of conduct*

The following rules governed the codes of conduct of the science community:

*Rule 1:* The science teachers have a consolidated personal and professional relationship based on shared values accumulated over many years.

The rule of the science community was characterised by such characteristics as collegiality, friendship and closeness. The following comment from Monica was typical:

> We have built a personal relationship; we do not only share values such as trust or friendship, but also common interests about the teaching and learning processes …

As this excerpt shows, the science teachers saw themselves as more than a team, they referred to themselves as friends that shared values and have mutual trust. As some of them indicated:

> **Michael:** We have a kind of collateral and affinity that everyone in the department can feel … I could feel it the moment I joined the department.
>
> **Maryann:** There is an affective and personal link among us that has been built through many years. We share values such us respect for our students and for the manner in which we prepare our classes.

These quotes are consistent with Little (1990) who comments that, in strong collegiality, teachers' motivation to participate with one another stems from "their personal friendships or dispositions" (p. 520). The science teachers were more than a team; they had built a strong bond between them, based on their affinity and shared values.

*Rule 2*: Each teacher felt confident to ask their colleagues for advice about the discipline.

A high sense of trust plus good communication encouraged the discussion of pedagogical issues and improved the teachers' practices. As Maryann said:

> I feel confident enough to approach any of my colleagues with a question, because I know that I'll have a professional response from each one of them. We have known each other for so long. We have managed to form a team. We help each other in formal and informal situations; we share experiences on what happens in each course (Maryann, interview).

This quote also shows that the science teachers felt confident to seek advice from any of their colleagues because they had known each other for many years and shared the same values. This was not the situation of the math group, where the two novice teachers sought advice from Sam because they trusted in his extensive expertise, but they did not have a long history of building the department together.

> **Monica:** We have gained flexibility in the way we teach science through dialogue, never by the imposition of ideas. The discussion is informal.
>
> **Sue:** In the lab the teachers come and go, and see them. Even the class notes are kept in the lab. You can see what a teacher is teaching, this or that subject. If someone likes certain aspects of a student guide or other class materials, that

> someone can use them in his/her own class. This is part of our everyday life at work … What I like about working in our department is the good communication that we have, we chat about everything.

These quotes show that the science teachers felt confident about sharing their class materials. They spent time talking about the development of their subjects at the science lab.

*Rule 3*: The science teachers solved their problems through dialogue and collective participation.

When the science teachers differed on a particular matter, this rule provided the procedure for solving their differences. As Monica said:

> We have gained flexibility in the way we teach science through dialogue, never by the imposition of ideas. The discussion is informal. Once we have made a decision, I remind my colleagues of what techniques they have to include as a result of our discussion …

Thus, this rule promoted getting together and dialoguing until consensus was achieved. Everyone was involved in the decisions of the department. Monica explained it further:

> Involving others in my decisions does not bother me at all. I believe asking others for their opinions is a way to getting them involved, and is a means to persuade them about what needs to be done. Involving people affects their emotions; you can create links among people and enhance their commitment to what we are doing. The very moment I ask someone for his or her opinion, I start building better ideas. If I say, "I decided we are doing this, period", you immediately raise negative attitudes.

This rule is consistent with Engeström (1998), who argues that rules can include agreements among the teachers as to who is doing what, at what point in time, and in what order. Monica's leadership role in setting and maintaining this rule was critical because she willingly decided to consult with her colleagues and get everyone involved when decisions needed to be made. This is an implicit rule that regulated the teachers' codes of conduct. It provided directions on how to proceed when differences

emerged or when decisions needed to be made. It affected the group's effectiveness in achieving their object because it kept the science teachers committed to it.

### *iii. The explicit rules of the math-science department*

In addition to the rules examined above, there were common rules that governed the actions of the math and science activity systems. The teachers had to complete an annual lesson plan and attend the Wednesday meetings. Each rule is examined in turn.

*Explicit Rule 1*: The math and science teachers must complete the annual lesson plan.

The math-science department had two separate annual lesson plans. It was compulsory that each group completed a lesson plan according to the criteria of the Ministry of Education. The lesson plan stated the teaching objectives, lesson content, activities and assessment that each teacher had to complete during the year. It was both a means for assuring quality and effectiveness of teaching and for performance assessment. This rule was seen as an explicit convention that governed the actions of both activity systems in the merged department. In the words of a teacher: "We are doing this because we have to complete the program of the Ministry" (Mark, Interview). According to the teachers, the annual lesson plan reinforced the coherence of their teaching practices within the department.

*Explicit Rule 2:* Wednesday is the day for department meetings

The department meetings of the merged department were held on Wednesdays in the science laboratory. When asked about how leadership practices had affected the normal work of the merged department, Sam indicated:

> It is more complicated now. I mean, we have only one meeting per week, on Wednesdays, where we are all together (math and science groups). We can only discuss general issues concerning the entire department, and the specific topics cannot be addressed. The other option is to allocate some time during the meeting for the science group to address their issues and for us to separately address ours. The math group needs time to get together and to check on how we are making progress in teaching contents and other issues …

The teachers had agreed to follow a schedule during the weekly meetings. The meeting began with a short review of the agreements and decisions which were taken during the previous meeting. Then, Sam informed the teachers about the immediate tasks which needed to be completed, such as examination timetable or a field trip. After that, Sam encouraged the teachers to bring up any other issues that needed to be addressed. Figure 5.4 lists the implicit rules of the math-science department.

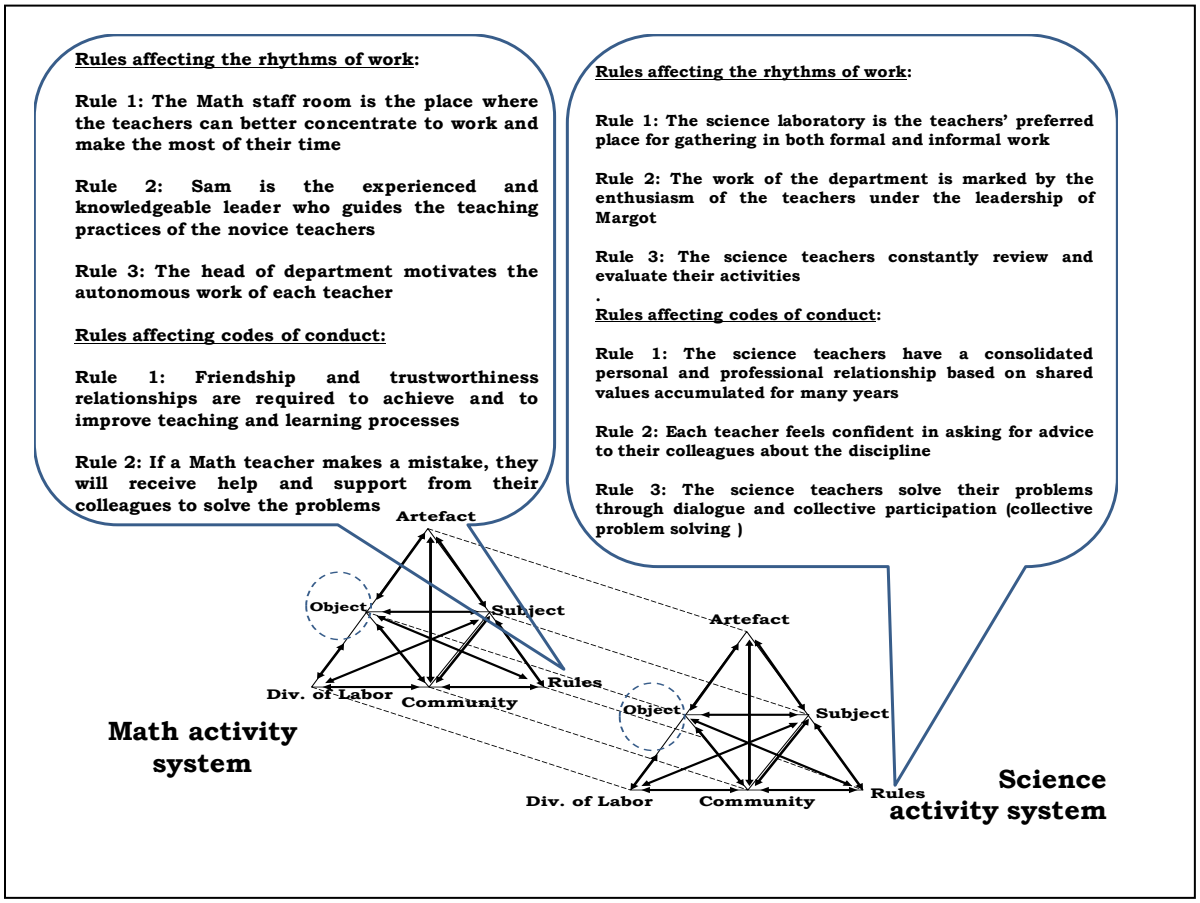


***Figure 5.4*** **The implicit rules that regulated the leadership practices of the math and science activity systems**

Taken together, the rules of the merged math-science department had some common characteristics. First, except from the lesson plan and the Wednesday department meetings, all their rules were implicit. The teachers acknowledged that their rules helped them to organise their functioning and to achieve the object of their group. They seemed comfortable with their rules because they were the fruit of their interactions and they had agreed to them. Second, the implicit rules of the science group stressed that the leader and the teacher worked together to solve their problems. In the math group, the implicit rules highlighted the function of support and guidance of Sam's leadership practices toward the novice teachers. Finally, the leadership practices of Monica and Sam were determinant in developing, agreeing, practising and respecting these rules. Both of them saw the rules as a means to provide direction and acceptable procedures, and for getting all teachers involved in their activity system. Overall, these values had been treasured, in most cases, through the many years they had been working together.

### *5.1.6 Department community*

As it was discussed in Chapter 2, community refers to the social group that each subject belongs to while engaged in an activity. In this section, I examine the characteristics of the math and science activity systems as two separate communities within the math-science department.

### *a. The math community*

The math staff room is housed on the corner of a cluster of rooms on the first floor at the end of a long corridor that runs off one side of the larger recreational area of the English School. Compared to the science group, the math staff room is located in a more isolated area of the school. It is very distant from the general staff room and from the science laboratory. The math teachers referred to this room as "our Math's corner". The room was equipped with a desk, a computer in one of the corners, and a white board where the math teachers sometimes further explained some content to their students. The room appeared to be insufficient as an area that contributed to informal work gatherings.

The staff composition and dynamics of the math community had been changing over the last four years. It had changed dramatically in 2007 when one of the teachers passed away and another one was fired. This triggered the need for hiring two new teachers. School authorities decided to hire Mark and Andrew, who had recently graduated and had little teaching experience. Sam reported that they were hired according to the new hiring policy created by Mr George: Hiring young teachers without professional experience. Their appointments created a potential conflict in the group's preferred pedagogical approaches. Andrew and Mark were new to teaching but Sam, the formal leader of the department, had a vast working experience at the school. As the head of department, Sam was challenged to build a new group around two novice teachers.

The leadership practices of Sam were influenced internally by the appointment of the new teachers. Sam felt Andrew's teaching techniques were getting closer to his own teaching style because they spent more time coordinating activities, but Mark was different. According to Sam, Mark's

qualifications affected his teaching style (he holds a double degree in Engineering and Mathematics), which ended in very hard-to-follow math lessons. Moreover, Sam believed that Mark was not following his advice regarding teaching techniques. As Sam indicated:

> My relationship with Andrew is closer though, I trust him and I know that he will follow my instructions; but I'm not that convinced that Mark will do the same. We chat, we agree on some teaching techniques, but I'm not sure if he uses them in the classroom or not.

Sam was very aware of the relevance of the math subjects for the student's performance in the PSU and SIMCE tests. He was also under pressure from Mr George to improve the students' outcomes in these tests. As a result, Sam's leadership practices were highly focused on improving the teaching and learning techniques of the math group. He tried to broaden the interests of the two novice teachers and to generate acceptance of and commitment to this object. Thus, the pressure from Mr George forced Sam to change his own leadership from advising and supporting the novice teachers to emphasising the students' performance on the PSU and SIMCE national tests.

### *b. The science community*

The science laboratory was the very centre of the science teachers' activities. The convenient location of the science laboratory was pointed out as a critical factor for the department functioning. The laboratory comfortably accommodated five desks, three computers and some nice furniture. The teachers used to meet up and keep their class materials in the laboratory. The science teachers were much happier with their staff room than the math teachers with theirs.

The leadership practices of Monica positively affected the working environment of the science group. During my observations, I noticed that

very experienced teachers were working together under the leadership of Monica. When asked about the contribution of each colleague, Sue indicated:

> Monica contributes with her knowledge about academic assessment. She shares what she is doing in her subjects, and I can use her class materials in my classes. From Matthew I learnt working with portfolios. He has much experience in this subject. He has worked using portfolios at the national level in the Ministry of Education. Nathan helps me with the laboratory topics and with lab experiments. He has experience in this. What I like about working in our department is the good communication that we have, we chat about everything …

The science teachers constantly mentioned the positive characteristics of Monica's leadership when shaping a cohesive community. Even when Sam had been appointed head of department, the science teachers pointed out Monica as their true leader. When asked about Monica´s leadership practices, Sue indicated:

> There are many who keep asking Monica for advice, she is still considered to be the head of the department. She also keeps more decisions under her control than the actual head of department does. She is my leader. (Sue, First interview)

> Monica has a more personal leadership style; she gets more at your level, if she has something to say, she will tell you, I feel closer to her. She is more incisive regarding tasks; she walks behind the teachers and puts pressure on them (Sue, Second interview).

This quote reveals how teachers felt closer to Monica as a leader. She cultivated a collaborative environment inside the department, building trust and providing visible support (i.e. "if she has something to say, she will tell you"). She also built commitment among the teachers to accomplish their agreement. Monica encouraged the pedagogical discussion within the department. The following quote is typical in this regard:

> My leadership was democratic, to the extent that someone told me that I should make my own decisions, and that I should not consult with everyone, but I think this is the way of getting people involved. I used to say, "Let's do this", but only once had it been agreed on. My leadership facilitated much thinking and conversation. We emphasised coordination among teachers. It was not necessary to wait for the

> next meeting, we always coordinated on the go, and we were always organised. We made decisions while having a cup of coffee, and then we decided what had to be done. It was a very neat and democratic leadership style. Everyone knew what to do.

Consistent with her definition of democratic leadership, Monica chose to include her followers' opinions and encouraged the science teachers to participate in the decisions of the department. The quote shows that Monica was aware of how her own leadership practices affected the activities of the department. She was also aware of the differences between her leadership practices and those of Mr George. On another occasion, she compared herself with Mr George´s leadership:

> I believe that what really troubles Mr George about me is my democratic style … he is definitively more authoritarian. He likes everyone doing what he says without questioning him. Involving others in my decisions does not bother me at all. I believe asking others for their opinions is a way to getting them involved, and is a means to persuade them about what needs to be done. Involving people affects their emotions; you can create links among people and enhance their commitment to what we are doing. The very moment I ask someone for his or her opinion, I start building better ideas. If I say, "I decided we are doing this, this period", you immediately raise negative attitudes. I believe this is what really disturbs Mr George.

This quote reveals that Monica believed that her leadership practices kept the science community focused on their object (i.e. developing students' skills through a meaningful understanding of the scientific method). She differentiated her leadership practices from Mr George's leadership practices: she classed herself as a democratic leader and Mr George as an authoritarian one. In her view, she unified the department, she kept them pushing towards the object of the science community. In contrast, she believed that Mr George's practices were unsuccessful in committing the science teachers to work under his leadership.

Taken together, the last two quotes show that Monica was very aware of her practices as a leader and the type of leadership she exhibited. This is consistent with studies that have demonstrated that successful heads of department exhibit their own personalities projecting their professionalism

underpinned by humanity (Dinham, 2007). Monica was also aware of her colleagues' opinions about herself. On one occasion she indicated:

> My colleagues always come to me regarding department issues. I think this is because of my personality. I am very versatile. I believe that I have to be of benefit to other people around me, wherever I am. This is the way I see my life, and I wonder if other people can see this characteristic of mine, this concern for helping others, my internal driving motivations. I have the capacity and the habit of critical thinking, I can criticise myself and realise when I'm not happy with my performance … I can tell myself when I have done wrong.

Taken together, these last five quotes show that Monica was deeply aware of how she thinks and behaves and how she was perceived by others. She was concerned about the values that energised her leadership, and about the context in which her leadership was put into action.

In conclusion, the math-science department as a community was actually divided into two very different working environments, "two different worlds" as Monica indicated. Figure 5.5 illustrates the community of math and science activity systems.

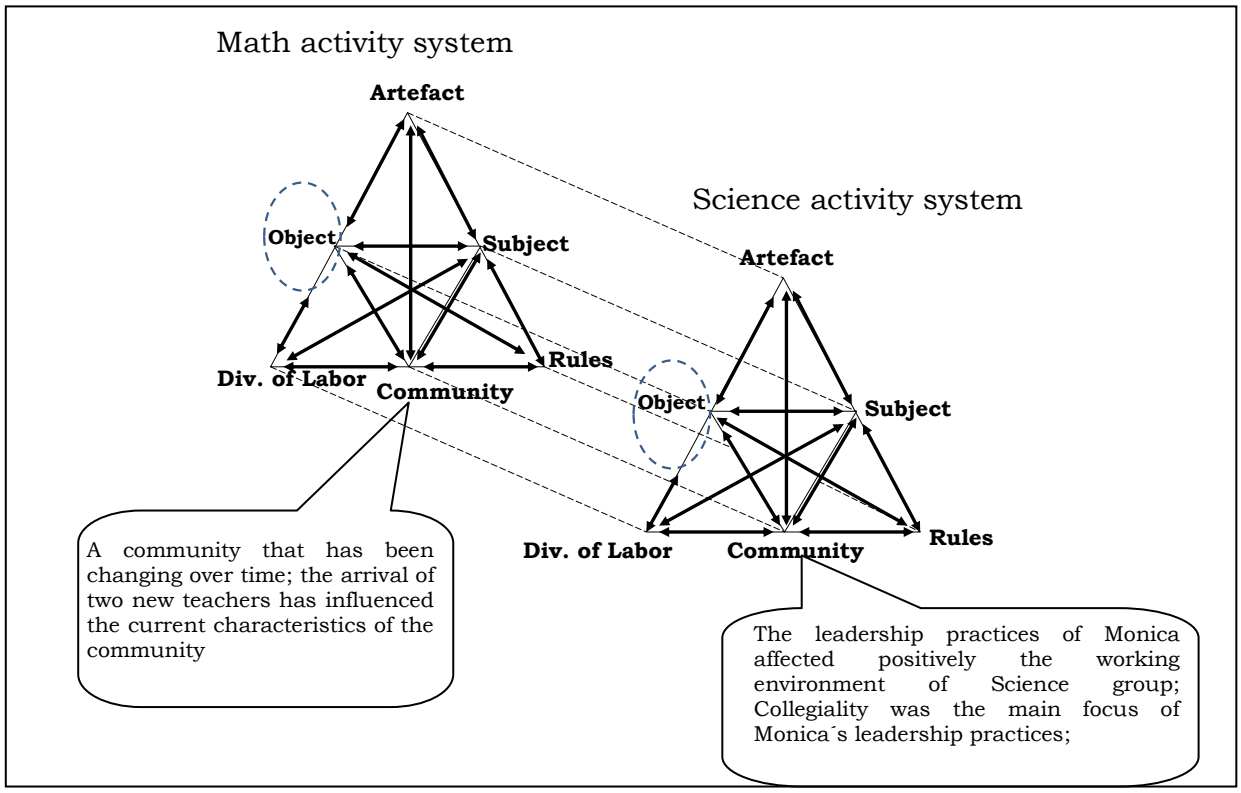


***Figure 5.5*** **The community of math and science activity systems**

In short, the science teachers represented a united working team based on mutual trust, communication skills and extensive work experience, while the math teachers struggled to agree on how their discipline should be taught from primary to secondary school. Monica's leadership kept the science community cohesive and working together for their object while Sam dealt with two newly graduated teachers with different beliefs about how to teach. This appears to threaten the position of Sam as head of department.

### *5.1.7 Division of labour*

In Chapter 2, I defined division of labour as encompassing both a horizontal distribution of tasks among the members of a community and a vertical division of power and status in the hierarchical structure of the community. In this section, I examine the horizontal and vertical division of labour of the math and science activity systems separately.

#### *a. The math activity system*

Before Sam was appointed as head of the merged department, he had been in charge of the math department. His vast teaching experience, his knowledge of the discipline and of the school culture legitimised his authority. He was acknowledged as a leader of the math group. As Andrew said:

> I respect him not only for his position, but also because of his knowledge. I acknowledge that his advice always is for the best. When you start as a teacher, you need a lot of advice. He helps me to learn from my mistakes. He taught me to share with the department what I do in my class. He told me: "You have good ideas that

> can help the department, and I have years of experience to help you". He taught me how to work in teams. He taught me the importance of supporting each other within the department … (Interview)

It is interesting to note how Sam's acknowledged authority status influenced the distribution of tasks: he influenced what Andrew taught and what he shared with his colleagues. When Mark was asked about Sam's leadership practices, he indicated:

> I appreciate his leadership in regards to his knowledge of the school culture. He has many years of experience; we have to start adjusting to it. One is always asking him and listening to his advice. He has been at the school much longer than us, he knows the paperwork, procedures and he knows what has to be done.

Both Andrew and Mark admitted that they sought Sam's advice regarding their teaching techniques. They also recognised that they needed to adjust their teaching practices to meet his criteria because he was the discipline expert who had been in the school for longer. Thus, experience and knowledge were the sources of power of Sam's authority and he used it to influence and to distribute tasks within the math group.

### *b. The science activity system*

Monica was the head of science before the math and science departments were merged. Even though the new vice-principal had demoted Monica, she maintained respect from her colleagues as the leader of the science group. Some of the sources of Monica's authority were similar to Sam's: experience, discipline knowledge and familiarity with the school culture. However, there were strong friendship bonds among all science teachers, which strengthened their feelings of trust. The science teachers considered the sense of trust as a key element, which facilitated the delegation of tasks and responsibilities by the department leader.

Regarding horizontal distribution of tasks, Monica described each one of her colleagues and their contributions to the department functioning.

> Matthew has much knowledge of the discipline. As head of department, I talked much with him regarding the problems I had with some of his courses. With Matthew, I have much confidence to tell him these issues. Maryann is more structured; she is more of a scientist than a teacher. She puts all the work of the department in order. Michael is low-key, but he accomplishes many things with his students. Sue is very knowledgeable, I see myself reflected in much of her work. If she was the head of department, I would follow her, she shares my beliefs about what working in teams really means …

Science teachers agreed that they had built a solid team. They felt that their department was a "good department", acknowledged by the school community for its cohesion and strong commitment to the school project. This was actually one of their main arguments against the decision of merging both departments. As one of the science teachers said: "Why bother a team that was doing so well? This is something that I do not understand. The merged department is not working; this decision was made without considering any pedagogical implications and without consulting the teachers' opinions" (Nathan).

Science teachers indicated that Nathan, the laboratory assistant, made a vital contribution to the department. Monica commented about him:

> Nathan is one of the driving forces of the Department, even though he is not a teacher. We trust his knowledge of laboratory work. John is the link between all of us in the department. If we need anything, there he is. If we need to cover for someone, there he is. I ask him about what activities I can use for my class. Then he suggests activities that were made many years ago. The good thing about this is that after the class one can evaluate with him the success of the activity. He helps me to improve the activity for the next opportunity …

Teachers said that Nathan had vast experience working in the science laboratory and that he is very knowledgeable.

> We trust him. Nathan is one of the driving forces of the department thanks to his vast experience working in the laboratory. In that sense he is an authority. He is a

permanent contribution to our activities, even to those very practical things. He is very involved with the work of our team. Teamwork is very important to him …

As the last two quotations show, the science teachers admitted that without Nathan's help, collaborative work would be very hard to achieve. They also acknowledged that the lab activities organised by him were a critical component of their teaching practices. They felt better prepared to teach their subjects thanks to his support and vast experience. Figure 5.6 illustrates the characteristics of the division of labour of the math and science activity systems.

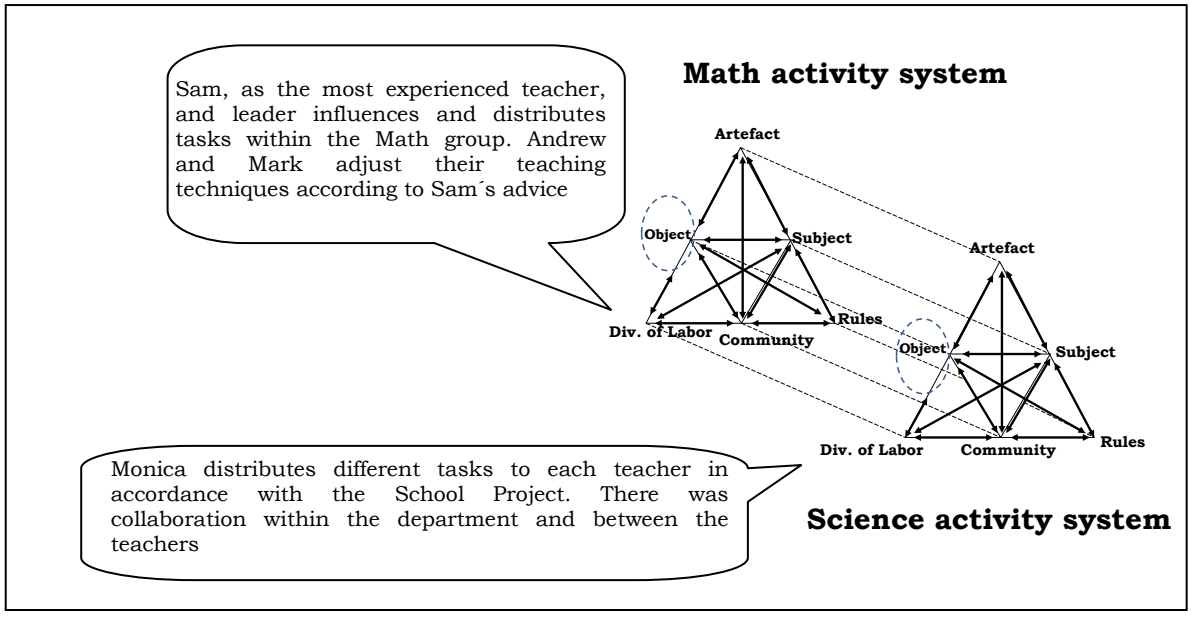



***Figure 5.6*** **The division of labour of the math and science activity systems**

In summary, the seven components that characterised the math-science department as an activity system were identified in this section. The subjects of each group were working on two different objects using different artefacts. Actions were mediated by the division of labour, rules and community. The subjects, the science and math teachers, were required to engage in the activities of a merged department. They were asked to produce a shared single object, but this did not take place. There

were two independent objects, patronised by each group's leader: Sam believed that the department should focus on making math easier to understand by improving teaching techniques; while Monica focused on making the teaching of the scientific method more meaningful to the students and on developing students' skills through it.

The production of each group's object was mediated through artefacts. The common artefacts cited by the science and math teachers were the annual department lesson plans and the Wednesday department meetings. For the science teachers, however, additional artefacts were used in the form of the Science Project and the Science Expo.

Further components influencing the activity system were the rules that governed the actions of the two activity systems. These rules took two forms: explicit and implicit. The science teachers indicated that the focus of the department prior to the merge was characterised by open communication and collegiality, teaching and learning reflection and enquiry. According to them, they had developed an internal capacity for improvement and change. I could identify that science teachers had created rules for generating artefacts that served their objectives. However, they also indicated that many of these characteristics were at risk due to the merge and the arrival of a new head of department.

Two distinct leadership practices influenced the division of labour of the math and science activity systems. The division of labour within the math group was determined by the influence of the head of department (Sam) on two newly appointed math teachers. The leadership practices of Monica were crucial to understand the collaborative working style of the science group. Thus, the groups did not negotiate new rules, new division of labour or a new shared object. They tended to keep the ones that they had been developing over time within their own subject group.

## *5.2 Analysing actions and disturbances*

As it was described in Chapter 2, a disturbance may take the form of an obstacle, difficulty, failure, disagreement or conflict within an activity system. Disturbances are disruptions in work and communication. Having described the five elements of the math-science department in the previous section, seven actions and their disturbances are identified and analysed herein: Action 1, Sam attempts to cancel the Science Expo; Action 2, Mr George changes academic objectives of optional subjects; Action 3, Mr George cancels the field trip to the "Interactive Museum"; Action 4, Sam demands the teachers complete school forms; Action 5, Mr George does not respect the Wednesday meetings; Action 6, Mr George establishes deadlines to release assessments' grades; Action 7, Mr George installs surveillance cameras and redistributes the blocks schedules.

### ***Action 1*: Sam attempts to cancel the Science Expo**

As mentioned previously, the Science Expo was the most visible expression of the teaching practices of the science group, which summarised the work of the students during the entire year. The students worked on these projects with the constant support and supervision of the science staff. At the end of the expo, the best project was selected to represent the school in a national science project competition. This is why the science teachers considered the expo to be the most distinctive locally designed artefact of their department (cf. Halverson, 2003).

However, Sam had postponed the annual Science Expo from 5 September to 7 October because two weeks before the end of the second term, nothing had yet been organised. At this point, the science teachers decided to express their frustration. They were particularly disappointed about Sam´s

lack of interest and involvement in their activities. They decided to complain during a department meeting, which was attended by Mr George. The debate that took place during this meeting revealed that Monica was still acting as the leader of the science group.

**Researcher´s notes:** Today is Wednesday, department meeting. Mr George approaches Sam to let him know that he will be attending the meeting: I'm interested in knowing how the design of the new website for preparing the PSU test is progressing. I notice that Sam was surprised to hear this; this is an unexpected situation. The meeting starts in a very tense atmosphere.

**Sam:** Good afternoon colleagues. The minutes for this meeting include three topics: the new web page for practising the PSU test, the end of the semester and the organisation of the Science Expo.

**Monica:** [sounds a bit upset] Sam, as head of this department, could you please let us know about the progress of the Science Projects, considering the fact that their final presentation is only two weeks away?

**Sam:** Well, that is precisely the purpose of this meeting; we need to know how each teacher is making progress with their projects.

**Maryann:** I'm sorry Sam but this is unacceptable. I can't believe that we are getting started with a discussion about the projects just two weeks before their presentation. Organising an event like this in the last minute is very unprofessional.

**Monica:** By this time last year, when I was the head of the department, we had already finished organising the expo. Today we have no projects, we haven't organised the Expo … we have nothing.

**Sam:** Colleagues, the Science Expo has been on for many years. You know what to do. I don't see the point of me pushing you to do this.

**Monica:** [talking more vehemently now] Sam, this is the first time that we have talked about the Science Expo. We haven't had the chance to talk about this before. The only day we have available is on Wednesdays, but we have had to complete other general tasks during that time; and during the rest of the week each one of us is busy with their classes.

**Maryann:** [looking upset] You have never approached us to enquire about the progress of our projects. We have waited a long time for you to ask about the Science Expo.

**Sue:** We have talked about the Science Expo, but we haven't had your support yet. We are trying to do our best, but we are on our own on this. Your lack of commitment worries me because it affects the quality of our work.

**Sam:** Well, if the situation is so precarious, we should probably cancel or postpone the Expo.

**Maryann:** [seems to be impatient and annoyed at this proposal] Sam, I do not agree with you, it seems you haven't given this much thought. We have had this activity for many years.

**Monica:** We can't postpone the expo, we are meant to be examples to our students. What excuse are we going to use? Are we going to tell them: "Well, we just couldn't organise it earlier" or are we going to invent something else? My opinion is that we should keep the date and keep on going. We are professionals, aren't we? We still have two weeks, I suggest we work hard.

**Sam:** [Sam looks very tense]. OK, but I would still recommend a one-week delay.

**Monica:** I believe we shouldn't postpone it. We can make it if the math teachers help us.

**Researcher´s notes:** Mr George follows the debate and takes notes in his diary.

**Sam:** Ok, Could you please prepare a list of all the activities we should complete over the following two weeks?

**Researcher´s notes:** After this, Sam starts organising the expo and assigning tasks to the teachers. The science teachers stayed in the room, but the math teachers, who did not give their opinion during the meeting, left.

The initial objective of the meeting was to address general issues regarding the functioning of the merged department, but the focus increasingly turned away from this towards criticism of Sam´s leadership. The discussion brought to the surface the contrasting rules of the science activity system and the new rules that Sam wanted to apply in the merged department. Multi-voiced perspectives on his leadership also were made visible during the meeting. Several disturbances emerged from Sam's attempt to cancel the Science Expo. I analyse each one herein.

First, Sam's attempt to cancel the Science Expo violated the rules governing the codes of conduct of the science group and the resulting disturbance took the form of criticism. Sam violated the rule regarding consulting colleagues regarding decisions of the discipline and the rule about solving problems through dialogue and collective participation, never by imposition. Maryann said: "I'm sorry Sam, but this is unacceptable". Sue also expressed her dissatisfaction: "Everyone is trying to do their best, but we are on our own". This statement made it clear that the science teachers were not satisfied with Sam's level of involvement with this department activity.

Second, Sam's attempt to cancel the Science Expo threatened a key artefact of the science group and ignored their division of labour. The resulting disturbance took the form of disagreements. Maryann and Sue argued that Sam never approached them to evaluate the progress of the activity. It seemed that the division of tasks between Sam and the teachers concerning the organisation of the Science Expo was unclear and had not been discussed or negotiated beforehand. Maryann accentuated:

> The *Science Expo* is emblematic to us. If the expo is not successful, it will flag to us that Sam does not share our ideals about teaching science. We have maintained this activity for a long time because it represents our ideal teaching strategies.

This quote shows how the science teachers were identified with their artefact. They believed the Science Expo was the result of their beliefs about how to teach science and of their collaborative working style. Sam preferred delegating the organisation of the Science Expo to the science teachers because they had done it for many years, but this decision was unsatisfactory for the science teachers. The disagreement between Sam and the science teachers was accentuated because he did not see anything wrong about delegating the organisation of the activity to them. Later on, Sam decided to put Nathan in charge of organising the Science Expo, which showed again that Sam did not understand how the science group executed the division of labour. This decision prolonged the disturbance instead of solving it.

Third, Sam's attempt to cancel the Science Expo affected the accepted object of the science group. The science teachers felt that Sam's lack of involvement would affect the final outcome of the activity. Sue said: "Your lack of commitment worries me because it affects the quality of our work". The science teachers used this meeting to express their discontent and frustration with Sam´s leadership practices. Monica commented:

> At the meeting, we wanted to say that we disagree with the way Sam is leading the department. His manner of leading makes us feel uncomfortable as a department, he does not empower us. His style is very slow and restrained …

It was interesting to note that in the above quote Monica referred to the science group as a department. The science teachers indicated that Sam's leadership was not in harmony with the object that they had built. Monica criticised Mr George´s decision to appoint Sam as head of department by contrasting their previous outcomes with the current situation. The science teachers believed that Sam's practices were not helping them keep their most valued artefacts.

Expressing their complaints against the merger was a way for the science teachers to protect those activities that distinguished the former science department. Siskin (1994) suggests that when teachers feel unsafe, energy that could be devoted to innovation efforts is diverted to self-protection and protection of interests. In his study on school leadership in three comprehensive high schools, Siskin (1997, p. 615) describes the case of a department featured by a defensive posture of resistance, aggravated by "a siege mentality in such defensive manoeuvres, and often a militant celebration over small victories or standoffs, even when the costs are high … and it is the department what teachers most often see as their first line of defence". One of the science teachers, in this study said: "We are here to defend our activities because it is important for our students" (Maryann). Protecting the activities and of the distinctiveness of the science group was Monica's "fighting flag", not only against Sam's leadership practices but also against the merger.

> Hiding my annoyance would be like pretending I'm fine, but I know that others notice it. The decision of the school really hurt me. It's about the department, not about the head of area. It's about the department. We all believe that when you have a strong and competent team—and we have it—working in a team is much better than working individually. Much of this way of thinking was not stated, we did not develop it overnight. On the contrary, we started to think about it, it was the fruit of teamwork overtime … (Monica, Interview)

The science teachers assumed either an active or passive response against the merger. They used meetings like this Science Expo meeting to manifest their unhappiness to the authorities. As Sam indicated:

> I see this meeting as an occasion for teachers to take advantage of the presence of the vice-principal there to externalise their annoyance about the merge. They wanted to express that they rejected the merge, and put in evidence that it was not working. During the meeting there was much criticism towards the school administration and the decisions of Mr George.

Fourth, Sam's attempt to cancel the Science Expo threatened the identity and the temporal rhythms of work of the science community. The resulting disturbance stressed how different the identities of the science and math groups were. Monica explained:

> I am now in the middle of this conflict and the department's disagreement with the vice-principal. I am trying to convince him that merging the departments was not a good idea. It is not a good idea because Sam is the head of department, but Math and Science are two different worlds. This department is not coherent. (Monica)

The excerpt above is consistent with Siskin (1991, p. 154) who suggests that department structures are "boundaries that divide them into distinct and different worlds". The difference between both communities was highlighted by another teacher during one of the interviews:

> I have tried to talk to them but I realise that we have very few things in common. We are here in our lab and they are over there in their room" (Sue, interview).

The use of such collective pronouns as "us, we, they" demonstrated the psychological barriers between the two activity systems. As Monica indicated, "We have consolidated a working style which emphasises discussion and participation, but I have not had the chance to see how the math teachers interact". In the same tenor, Andrew commented after the meeting:

> The meeting showed that Monica is the natural leader of the department. She addressed the meeting. Monica is more organised than Sam. She knows her people, and knows what each one must do. She is highly focused on the discipline subjects. They (the science group) are different from us; they have their own identity, and she knows that we are not part of their group. They have more staff than our group, they can divide the tasks, but we are few people and it is hard to divide the tasks. We do not have a person like Nathan to help the department staff either.

Andrew indicated as a matter of fact that the math teachers were aware of how different their group was compared to the science group. He also acknowledged that Monica and the science teachers knew they were different from the math community. The merger affected the temporal rhythms of work of the math and science communities because it pushed them to work together as a new department while ignoring their distinctive identities and consolidated working styles. During the following days after the meeting I observed how Nathan, the laboratory assistant, was organising the activities of the Science Expo. When asked about this situation, Monica indicated:

> The fact that Nathan is now in charge of organising the *Science Expo* is not a good sign. He is not a teacher and he is not the head of the department. This shows that the expo is not considered to be a department activity. Everything is in Nathan's hands now; and he is doing his best because he is a good person and wants the best for our department.

This decision also shows that Sam did not understand how the science group executed the division of labour. Appointing the laboratory assistant as the coordinator of the expo prolonged the disturbance rather than solving it.

In summary, four disturbances emerged from Sam's attempt to cancel the Science Expo. The disturbances took the form of rule violations, misunderstandings, disagreements, complaints, and public criticism against Sam´s leadership practices. His action caused disturbances because it broke the rules governing the division of labour (which had not been negotiated by Sam and the science teachers), the accepted object and

a critical artefact of the science activity system (because the Science Expo was considered critical to achieve their object). When the science teachers used the meeting to complain about the merger, their complaints brought to the surface that two contrasting professional communities had been put together, which altered the temporal rhythms of work of the science group and produced lack of identification with the merged department.

***<u>Action 2</u>: Mr George changes academic objectives of optional subjects***

In 2007, the Chilean Ministry of Education granted the English School with the label "Independent School for Curriculum Design Purposes¨. Thus, the English School gained autonomy for the preparation of its own school programs, according to its own educational objectives. Henry, the curriculum leader, promoted the English School as pursuing an "education for life". The curriculum would emphasise the students' comprehensive education, which included family and social values, English language, Science, Economics, History and Arts, among others. In order to achieve the objectives of a comprehensive education, students in grades 3 and 4 of high school (the last two years) were offered a range of optional subjects such as Research Methods in Science, Contemporary History, Advanced English or Advanced Mathematics. According to Henry, the optional subjects would prepare students for university life. The objective of the school project was never oriented towards SIMCE or PSU.

After Mr George took over, the majority of parents expressed their concerns regarding their children´s academic performance in the national SIMCE and PSU tests. Specifically, parents wanted their children to obtain high scores in the PSU test, so they could continue on with their university studies. As a consequence, the new authority decided to modify the curriculum's objectives, which resulted in new objectives being assigned to

the optional subjects and the introduction of new optional PSU-preparation subjects. In the words of Mr George:

> For the first time, we can offer optional subjects for the preparation of the PSU test. We have hired a new teacher, who will teach three different sections. Working with smaller groups will allow the teacher to use more personalised teaching strategies and to focus on the needs of each student …

This decision affected both the math and science activity systems. Their optional subjects were assigned new PSU-oriented objectives and the time periods of other non-PSU oriented optional subjects were dramatically reduced. According to Mrs Judy, the head of seniors, the curriculum of the optional subjects was inconsistent with the PSU objectives, which were defined by the Chilean Ministry of Education. She reported that:

> The issue is that this school is not consistent with the programmes of the Ministry. Henry says that we don't have to change the entire educational program, because the main contents are in the optional subjects, but I would say that the optional subjects are of very little benefit to the students, they are very ill-structured, like all things we do in this school. My opinion is that we should adjust our curriculum to the Ministry´s.

Changing the academic objectives of the optional subjects affected directly another traditional artefact of the math and science groups and the resulting disturbance took the form of disagreements. This disturbance emerged during a meeting between Mr George and the math-science department. Mr George wanted to explain the new objectives of the optional subjects to the teachers. When I asked Mr George for the reason why he decided to meet with them, he said:

> I believe that this is the best way to reach them, because I believe in teachers, I am a teacher myself. The best way to reach them is getting to know them, listening to them, but at the same time trying to convince them that the school needs to change because we need parents to feel happy and safe …

After the meeting with Mr George, the science teachers expressed to me their disagreement. They believed that Mr George was trying to control them. The teachers commented:

> **Sam:** The current vice-principal is a person in whom we do not trust. We do not trust his pedagogical criteria. After all, he is not the one teaching every day. When he makes a decision, he seems to be aiming for more control (Sam).

> **Maryann:** Under the current administration by Mr George we are somehow, more confused, with a lower profile. Here, things just happen, and then you hear the news through the students. He has settled himself as the formal leader, but whether he is my leader or not … that is a different story. I see him always controlling what we do, controlling our schedules, checking on us, and watching whether everything has been completed or not. I don't believe he is interested in talking with the teachers. We had another vice-principal before. He was close to the teachers, back then we all used to work for a common goal. That goal was maintaining the school at its best in terms of academic performance. We used to encourage self-control and teamwork.

In addition, changing the objectives of the optional subjects violated the rules that regulated the division of labour of both activity systems and the resulting disturbance took the form of complaints. The science teachers felt that Mr George had left them out of the academic decisions and ignored that the objectives and contents of the optional subjects were the teachers' exclusive domain. They were informed of the new objectives without being included in the decision-making process. As one of the science teachers said: "The platform of academic discussion moved from the staff room to Mr George's office". Most important, the teachers could not understand the vice-principal´s academic reasons for these new teaching objectives. This led to feelings of disbelief and lack of trust in the vice-principal´s leadership practices.

In short, Mr George's action of changing the academic objectives of the optional subjects of the math-science department caused disturbances because it threatened their traditional artefact (the optional subjects) and violated the rules that stipulated the division of labour. These disturbances

took the form of disagreement and complaints against the innovation promoted by the vice-principal.

***<u>Action 3</u>: Mr George cancels the field trip to the "Interactive Museum"***

The vice-principal decided to cancel the field trip to the Interactive Museum organised by the science teachers because of lack of funding. This action affected another important artefact for the science teachers and it violated the rule of the department which stressed trusting the teachers' expertise. The disturbance took the form of disagreement. As Nathan, the laboratory assistant indicated: *"*This is an unfortunate situation, because this project is the outcome of the intensive work of the science group during the entire year. Not only Michael, but the entire department had been involved in organising these activities*"*. Michael, the science teacher who organised the Interactive Museum, commented on the decision of Mr George:

> This field trip is part of a project that we are carrying out as a Department in conjunction with the University. The project consists of installing an interactive museum at the school. Some time ago, when one wanted to organise a field trip, the procedure was simple; you just needed authorisation, nothing else. The school used to trust you on what you were doing. Today there is more distrust and more control over what a teacher does and does not do. I have the impression that the authority has no idea what we are doing. Today I see that there is much more bureaucracy when one wants to do this type of activity outside the school …

Michael emphasised the importance of trust when developing department activities. The science teachers often mentioned these two phrases during the interviews: "lack of trust" and "excessive control". In the same way, Maryann indicated emphatically:

> I see him [Mr George] always controlling what we do, controlling our schedules, checking on us, watching whether everything has been completed or not. I don't believe he is interested in trying to talk with the teachers.

Henry, the academic coordinator, recalled how trust and self-control were the driving forces (e.g. traditional rules) when Mr Bryan was the leader of the school: "It was an ideal school where the leader let you do your job, he trusted in your professionalism … and therefore he let you work and develop your ideas. That was considered to be important".

In sum, Mr George's action caused disturbances centred in an important artefact (the trip to the Interactive Museum) of the science activity system and in the rules governing the development of artefacts. The disturbances took the form of disagreements against the decision of the vice-principal.

### ***Action 4: Sam demands the teachers complete school forms***

Sam's leadership practices became a source of major confusion for the science teachers. During the first meeting, I wrote the following interactions in my field notes:

> **Sam:** I am giving you a template for you to analyse the subject contents that you currently teach. It needs to be done at the earliest.
>
> **Monica:** But we did this earlier this year.
>
> **Sam:** Yeah, but now it needs more detail. The idea is that everyone has to deliver an individual report. Remember that the school has a special curriculum, and it must be justified before the Ministry of Education.
>
> **Maryann:** We should arrange a meeting to work on this report. You should give first priority to this meeting, and make sure that we have the necessary time to work together on it. We need to talk to those colleagues who teach the same subject. That requires a formal meeting.
>
> **Sam:** We could set the next meeting to discuss this issue, but to be honest, I don't know when we are going to meet again …

The quotes reveal that Sam's action violated the rule of the science activity system which stressed that the teachers were to complete their tasks through collaborative working under the leadership of Monica. Sam was not supportive of this rule and the disturbance took the form of disagreement and complaint. The rules for the division of labour applied by

Sam were totally different from those of the science teachers. Maryann stressed the need for collaborative working: ¨You [Sam] should give first priority to this meeting and make sure that we have the necessary time to work together on it"; while Sam expected just individual reports. Moreover, the teachers expected Sam to provide the necessary time and resources for the completion of their task, but Sam's answer is rather disappointing: "To be honest, I don't know when we are going to meet again". At the end of the department meeting each teacher received forms which were to be analysed and filled-out. Then, Sam asked them to send their comments by email. He informed them that, once he had received all the reports and comments, he would resend them to the school authorities. I sensed a feeling of apathy (e.g. looking each other and adopting a passive attitude) among the science teachers because this action was completely opposed to their collaborative working style.

***<u>Action 5</u>: Mr George does not respect the Wednesday meetings***

The science teachers felt that their group meetings were not important to Mr George. He frequently used the department meeting time to address general staff or school issues. This action violated an explicit rule of the math-science department which stated that the Wednesday meetings were dedicated time to addressing department issues. The resulting disturbance took the form of disagreement and complaint. The following quotes illustrate this situation:

> **Sam:** Colleagues, sorry for being late. I have just met up with Mr George to address some issues about the math discipline. I was planning on giving you this information today and keep working on it with the math teachers afterwards. But Mr George needed us to meet today too and now it's 17.40 hrs … I don't know if we have time to talk about all of this, most issues will probably remain pending until the next meeting …
>
> **Monica:** (interrupts Sam, visibly upset) Sam, you should insist to Mr George about the need for us to have proper meeting times. We used to have a meeting schedule

and everything worked well back then. We used to prioritise our department meetings over any other kind of meetings.

**Nathan:** We also used to have a monthly general meeting.

**Sam:** That was precisely one of the topics I just brought up with Mr George. The math group is working quite uncoordinated at the moment and we need more meetings. He said, "How come? What about the Wednesday meetings?" I replied that on Wednesdays I have to address general department issues and that I cannot address math topics in front of the science teachers. Then he said to me, "but the meetings go on until 6.00 pm!" I said "No, they end at 5.00 pm", but he insisted they end at 6.00 pm.

**Sue:** Every Wednesday is a surprise, we never know what is going to happen and that is due to lack of coordination. I can't believe that we have to wait until Wednesday morning to know what the meetings are going to be about. We used to know the purpose of our meetings in advance.

**Monica:** You should insist on this. We need a better way to organise our meetings and our work. I remember that Mr George used to be in charge of this, because it was the job of the head of seniors. We should talk to him, we need to schedule our meetings in advance and stick to it.

**Sam:** I apologise, but my hands are tied. This situation is beyond my control.

This extract of the department meeting reveals that the science teachers blamed the merger and Mr George for the poor organisation of the department meetings. Moreover, Sam as the head of the merged department was seen as an outsider and a distant leader by the science teachers. However, Sam's leadership practices could have been better understood if the science teachers had considered that he was facing major challenges and pressures: working on Mr George's intended object, attending the needs of the Math activity system with its two newly hired math teachers, and acting as the new leader of the science teachers. Thus, the disturbances that arose during the meeting revealed that the leadership practices of Sam were resisted by the science teachers. The disturbances took the form of rule violation and complaint.

***<u>Action 6</u>: Mr George establishes deadlines to release assessment grades***

The disturbance emerged when some parents complained about the math teachers taking too long in marking assignments and in giving their grades back to the students. Instead of discussing the issue with the math teachers, Mr George decided to set up the deadlines when they should release the assessment grades. His action violated the rules that regulated the codes of conduct of the math group. These rules stressed dialogue and consensus to solve the teachers' problems and stated that if a math teacher made a mistake, they would receive help from their colleagues. The resulting disturbance took the form of disagreement and complaints.

After Mr George made his decision, he called the math teachers for a new meeting. I asked him about the purpose of this meeting and he said:

> This meeting was called to let the math teachers know that the authority is concerned about their teaching practices. They are underperforming in the classroom and they should be aware of it. The purpose of the meeting was taking control of the lesson plan. They have a weak leader and the new teachers have little teaching experience …

This quote shows that the rule about using dialogue to improve teaching techniques was violated. Sam commented about this meeting:

> This problem should have been addressed by the head of department during a department meeting. It should not have been addressed immediately by the vice-principal.

In this quote, Sam acknowledged that the vice-principal ignored his position as head of department and took it over. However, Mrs Judi supported Mr George's decision:

> Issues like Andrew being unable to release assignment grades on time or Mark having communication problems with his students are not just department issues,

> they are important at the macro-school level. Mathematics is a department of the school, so their problems must be treated as school problems …

While Mrs Judy supported Mr George, the math teachers aligned their position with Sam's:

> When a teacher has problems with a class because of their low academic performance, the school authorities blame the teacher. Nobody considers the story, the process. I think that the vice-principal has chosen this way of solving problems (Mark).

Taken together, these last four quotes show that the disturbance took the form of disagreement between the math teachers and the school authorities. For the math teachers, "the problem" should have been treated within the department in the first place. However, the school authorities considered this problem to be a "school problem", which legitimised Mr George's intervention in their view.

Moreover, Mr George´s practices of blaming teachers and the intervention of the department fostered mistrust amongst the teachers. For example, Mark complained about the vice-principal listening to the parents before dealing with the problem:

> When a group of parents can change the system because the authority fears them …, when the authority cannot stand before the parents and refute them, as Mr George is doing today, then parents can change tests, they call the vice-principal and suggest assessment timetables and change the tests that have already been scheduled. I see a major inconsistency in all this …

In short, Mr George's action of intervening in the department to solve the problem violated the rules governing codes of conduct of the math group. They believed that their internal procedures to deal with problems had not been respected and the position of the head of department had been overridden. The math teachers felt a deep sense of mistrust because they were blamed for the lower academic results of the students. The resulting disturbance took the form of disagreement and complaints.

***<u>Action 7</u>: Mr George installs surveillance cameras and redistributes the block schedules***

Two years before this study, the vice-principal decided to implement two innovations: The first consisted of surveillance cameras being installed in the school corridors and the second was a re-arrangement of the block schedule (i.e. shorter breaks and longer class periods). Mr George's actions were taken by the teachers as a sign of mistrust and excessive control, which violated the rules governing their codes of conduct and rhythms of work. The emerging disturbance took the form of criticism and disagreement against the action of the vice-principal.

***a. The surveillance cameras***

The cameras were installed throughout the school in areas facing the exterior doors, in hallways leading to the exterior doors, and in the boys'-and-girls' locker rooms. The cameras began to operate one year before I started to collect data at the school. The images captured by the cameras were reviewed weekly by Mr George. He was the only school authority who had access to this information. The cameras and the fact that Mr George had exclusive access to this information were interpreted by the teachers as a sign of distrust and excessive control. When asked about the objective of the cameras, Mrs Judi indicated: "The original goal was security; but the teachers have taken this as a monitoring measure over their teaching activities". When asked about how the implementation of the surveillance cameras had affected the teaching activities of the department, Nathan reported emphatically:

> Until some time ago, my colleagues used to work on demos in the corridors, taking the students around when developing these models. The teachers thought that the

> room was not the only place for teaching. Today it is forbidden for us to work in the corridors. One wants to work with children in the corridors, and we are recorded by the cameras, then the vice-principal comes along and asks why we are out of the classroom. Everything is so complicated now …

I had a conversation with the vice-principal while he walked through the corridors carrying his walkie-talkie:

> The cameras were installed because of thieves and for security purposes. I have experience working in schools in the United States. Over there, the presence of the cameras was considered to be normal by the entire school community. Some teachers tell me that this is typical of another culture, not of ours. I agree. But here the issue is a matter of control. I was hired to be an overseer …

Thus, the installation of cameras violated the rules stating that friendship and trustworthiness in relationships is required to improve teaching and learning processes and that "the teachers work with enthusiasm". To the teachers, the cameras were a hindrance to the development of trust at the school. This is consistent with Cialdini (1996, p. 56) who notes that "the implementation of surveillance system sends a clear message to those under surveillance: we don't trust you". As a result, the disturbance was manifested as disagreement and criticism.

### *b. The new block schedules*

The second innovation was the change in the block schedules. The longer lesson times and shorter breaks prevented the teachers from coordinating daily activities during breaks, which violated the rules governing the temporal rhythms of work of the math-science department. For the teachers, the new policy had encouraged more individual activity and de-emphasised collegiality. Some teachers commented in this regard:

> **Andrew:** We need more time to co-ordinate our work. We used to have a settled time to talk about math issues. With the reduced break durations, we are always running late. We used to coordinate our work during the breaks …

> **Sue:** With shorter breaks there is no time to discuss anything. When we had twenty-minute breaks, we had time to talk about something or to follow-up a topic from one break to the next one. They were not big issues, but we used to ask each other for advice. No colleague left him/her-self out of these talks …
>
> **Nathan:** When we have emerging problems, we have a chat in the corridors or we use the breaks to chat. We had the chance to say to a colleague: look, there is this issue … what can we do about it? We now have fewer chances to talk. The lesson periods have been extended, we have less time to get together and chat. The chances for addressing more specific issues have significantly decreased.

Taken together, these quotes reveal the teachers' frustration with the reduced break times and the installation of the security cameras. They felt stressed, rushed and constantly monitored. They perceived them as hindrances to their collaborative work and productivity. The measures increased the teachers' discontent and accentuated their resistance against Mr George's actions.

In summary, the new block schedules violated the rules governing the temporal rhythms of work of the math-science department that stressed collaborative working, friendship, enthusiasm and dialogue to improve teaching techniques. The disturbances took the form of disagreement and criticisms. Table 6.1 summarises the leadership practices that affected systemic components and introduced disturbances into the math-science department.

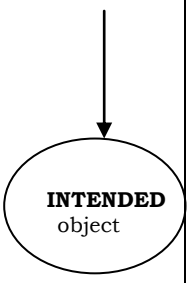
## 5.3. Summary of findings and discussion: Leadership practices and disturbances

In this chapter, I delineated two independent activity systems within the merged math-science department: the math activity system and the science activity system. I showed how various leadership practices affected several components of the math and science activity systems that disturbed their stability. The disturbances manifested as criticism,

disagreements and complaints. Drawing on the findings presented in the previous sections of this chapter, I analyse here the leadership practices that generated disturbances in the merged department. The following analysis of leadership practices is based on the literature on transactional and transformational leadership that was advanced in Chapter 2.

The leaders considered in this section are Sam and Monica. Sam, the head of the merged department, adopted two leadership practices: transformational leadership when dealing with the math teachers and transactional leadership when dealing with the science teachers. Monica, the former head of science, adopted authentic transformational leadership when dealing with her group.

**Table 5.3**
**Disturbances in the merged math-science department**

| ***Leader*** | ***Leadership practices*** | **Actions** | **Disturbances** | **Components of the activity system which were affected** |
|---|---|---|---|---|
| Mr George | Transactional leadership (Active)<br>  <br>**INTENDED** object | **Action 2:** Mr George changes academic objectives of optional subjects (Math-science department) | - Disagreement<br>- Complaint<br>- Criticism<br>- Rule violation | Artefact<br>Division of labour |
| | | **Action 3:** Mr George cancels the "Interactive Museum" field trip (science group) | - Disagreement<br>- Rule violation | Artefact<br>Division of labour<br>Community |
| | | **Action 5**: Mr George does not respect the Wednesday meetings | Disagreement<br>Complaint | Rule |
| | | **Action 6:** Mr George establishes deadlines to release assessments' grades. | Disagreement<br>Complaint | Rule |
| | | **Action 7:** Mr George decides to implement two innovations at school: installation of electronic surveillance and the redistribution of the blocks schedule. | - Rule violation<br>- Disagreement<br>- Complaint | Rule that stressed the codes of conduct<br>Division of labour<br>Rules that stressed the rhythms of work |

| | | | | |
|---|---|---|---|---|
| | | (Math-science department) | | Rules of the rhythms of work<br>Community |
| Sam (head of department) | Transactional leadership (with Science group) | **Action 1:** Sam's attempt to cancel the Science Expo | - Rule violation<br>- Disagreement<br>- Criticism<br>- Complaint<br>- Differences | - Rules that stressed the code of conducts<br>- Division of labour<br>- Department object<br>- Rules that stressed the rhythms of work<br>- Community |
| | | **Action 4**: Sam demands the teachers complete school forms | - Misunderstanding<br>- Disagreement<br>- Complaint<br>- Public criticism | - Community<br>- Division of labour |

### *5.3.1 Sam´s transformational leadership practices towards the math teachers*

According to Leithwood and Duke (1999), Yukl, (2002), and Bass and Avolio (1994), transformational leaders increase their followers' level of interest, respect the group's mission, induce respect, become role models and encourage followers to find new solutions. Sam met these characteristics when dealing with the math teachers. The main characteristics of his transformational leadership were: i) motivating and guiding the teachers to pursue the group object, ii) inspiring the teachers through his own example, iii) creating a trustworthy working environment and encouraging the teachers' professional development. Each of these characteristics of Sam's leadership practices is discussed in turn.

*(i) Motivating and guiding the teachers to pursue and achieve the group object*. Sam's leadership practices were focused on influencing and encouraging his novice followers to share his vision of the department´s object. Sam's object for the math department was

developing personalised teaching and improving teaching techniques. Sam helped them improve their class materials and teaching techniques. He was always available for consultation and the two novice teachers relied on his experience and advice to achieve the object.

*(ii) Inspiring the teachers through his personal example.* Sam's relation with the math teachers was informal and friendly. He was approachable and always accessible. He prompted trust, admiration and respect among the math teachers. As the most experienced teacher, Sam was a mentor to his novice colleagues. Andrew and Mark considered Sam as the legitimate source of advice, support and guidance. Due to his vast teaching experience and his 25 years working at the school he was considered an example worth following.

*(iii) Creating a trustworthy working environment and encouraging the teachers' professional development.* Sam motivated the novice teachers to rethink and reassess their teaching techniques in terms of the object of the department. Sam helped them to make sense of the working environment they had recently joined. His final outcome was their professional development. Sam's leadership practices stressed the development of a high sense of trust and friendship to create a trustworthy working environment and to increase the participation of his colleagues. For instance, tolerance for mistakes and sense of solidarity promoted by Sam also helped creating a trustworthy working environment and encouraged the novice teachers' participation in departmental activities. They knew they would not be discriminated against or punished.

### *5.3.2 Sam´s transactional leadership practices towards the science teachers*

Sam used both transactional and transformational leadership practices. He adopted the transactional leadership practices when he dealt with the science teachers and he was transformational when he dealt with the math teachers. Sam used transactional leadership practices to respond to external pressures such as Mr George's new policies (he acted as a delegate of Mr George). The main features of his transactional leadership practices were: i) Sam's interaction with the science teachers was usually episodic, short-lived and limited to an exchange transaction, ii) Sam's practices aggravated lack of trust and identification with the merged department, iii) he emphasised the school object and iv) he used passive transactional leadership when dealing with the science group. Each of these characteristics of Sam's leadership practices is discussed in turn.

(i) *Sam's interaction with the science teachers was usually episodic, short-lived and limited to the exchange transaction*. The science teachers continually complained about the little formal communication with the head of department. They contrasted their personal involvement with Monica and their distant relationship with Sam. They believed that his leadership was concerned largely with organisational purposes rather than their department's needs. The science teachers indicated that Sam's leadership was administrative and more focused on watching what they were doing than on getting himself involved in the development of the science group. They also criticised his lack of commitment to the science teachers' activities. The transactional leadership practices of Sam were resisted by the science teachers because they violated the rules which governed their division of labour and their community.

(ii) *Sam's practices aggravated lack of trust and identification with the merged department.* When Sam adopted transactional leadership to deal with the science teachers, he was confronted by the contrasting authentic transformational leadership of Monica. Monica's leadership tended to place great emphasis on the collaboration and involvement of others. There were occasions when Monica's leadership practices turned transactional too (i.e. when she monitored whether the science teachers had accomplished their duties or not), but she was able to swap transactional and transformational practices because she had gained the trust of her colleagues. On the contrary, Sam was unsuccessful in doing this because he did not have the trust of the science teachers. Thus, the opposing transactional practices of Sam when dealing with the science teachers accentuated their sense of frustration, uncertainty and resistance against the merger. Instead of devoting their energy to innovation efforts, they diverted it into self-protection, conflict and rupture.

(iii) *Sam emphasised the school object*. Sam focused on the key purposes of the organisation and on what needed to be done in order to reach the desired outcomes. Teachers complained about the little time they had to discuss their department issues and blamed Sam for spending excessive meeting time on school objectives. Sam's transactional leadership practices towards the science teachers were strongly resisted by them. The department meetings brought to the surface the contrasting objects, rules, division of labour and artefacts between the math and science activity systems.

(iv) *Sam adopted a passive-transactional relationship with the science teachers*: The science teachers complained that under the leadership of Sam, they were always doing something for, to and on behalf of others. In this context, they believed they could not go beyond Sam's initial expectations, nor were they motivated to try out creative

solutions to change the status quo. Sam was seen as a passive leader who was unable to solve their problems.

Sam used his transformational leadership practices to enhance the performance of the novice math teachers. As a transformational leader, Sam's actions tended to move the math group forward. At a school level, the transformational leadership practices of Sam contrasted with the transactional practices of Mr George. Pressured by demands for accountability, Sam was forced to focus on the students' performance in PSU and SIMCE instead of on the professional development of the teachers. Mr George's pressure constrained Sam's transformational leadership inside the math group.

### *5.3.3 Monica´s authentic leadership practices towards the science teachers*

Monica adopted authentic leadership practices within the science group. As it was advanced in Chapter 2, authentic transformational leaders advocate objects that are grounded in shared values, and their actions promote goals that benefit the larger community.

In this chapter, I described leadership practices which show how Monica adopted transformational leadership when dealing with the science group. The main features of her practices were: i) awareness of the purpose of her practices, ii) building trust and authentic relationship with her peers, and iii) personal commitment to social values and to department success. Each of these characteristics of Monica's leadership practices are discussed in turn.

(i) *Monica was aware of the purpose of her leadership practices*. Monica's leadership practices pushed the teachers to build a shared

understanding of the object of their activity. Moreover, Monica worked on linking together the department object (improving the teaching and learning processes of the department and the students' skills) and the school object. Monica also encouraged the teachers to improve their teaching techniques and continually challenged them to re-examine their processes. For instance, the science teachers were unsatisfied with the annual lesson plan suggested by the school. They created their own department lesson plan to serve their object. She consolidated her leadership through the creation of the rules of the science group. She used dialogue, cooperation and collective problem solving. The teachers acknowledged that her leadership had transformed the department culture, built their teacher's relationship, and improved their teaching practices. Overtime, dialoguing and collaborative problem solving became one of the most respected rules governing the science group's functioning: "the science teachers solve their problems through dialogue and collective participation". This affected the group's effectiveness in achieving their object because it kept the science teachers committed to it.

(ii) *Building trustworthy and authentic relationships with peers.* Monica looked out for the welfare of others. The teachers followed her to form authentic relationships which would not manipulate their actions. She used dialogue to consolidate authentic relationships based on trust and friendship. She allowed people to pursue their own initiatives as long as they met the needs of the group. As an authentic-transformational leader, Monica demonstrated acceptance of individual differences assigning tasks in accordance with the individual potential of each teacher (i.e. Juan the laboratory assistant). Little (1990) comments that strong collegiality and teachers' motivation to participate stems "from their personal friendships" (p. 520).

**(iii)** *Commitment to social values and to the department's success.* Monica led from conviction, in pursuit of deeply rooted values shared by all teachers, not values imposed by others. There were strong friendship bonds among all science teachers, which strengthened their mutual trust. Their mutual trust facilitated the delegation of tasks and responsibilities by the department leader. Monica was deeply aware of how she behaved and how she was perceived by her followers. She was concerned about the values that her leadership inspired to others and about her actions being consistent with her personal values: honesty, commitment, integrity, trustworthiness and friendship. For example, Monica believed that she was to serve others through her leadership, and sought empowering the teachers to make a difference in their professional development. She identified the teachers' talents and helped them build those talents into strengths. In her own view, she unified the department and kept them pushing towards the object of the science community.

In summary, both leaders played a critical role in the functioning of their group. Monica's authentic leadership practices kept the science community united, working together for their object. Her practices stimulated the reflective communication among the teachers, who respected their rules and used their artefacts for improving teaching practices and for achieving their shared object. Sam's transformational leadership practices dealt with two novice teachers with different beliefs about how to teach the subject. Sam motivated the teachers to find mutually acceptable ways to teach maths and to solve their problems.

Overall, Monica's and Sam's leadership practices were determinant for the successful functioning of each group. Both activity systems seemed comfortable with their rules, artefacts and division of labour before the merger because they had agreed to them. Their rules provided direction

and kept everyone involved in their activity system. The foundations of both activity systems were the values of trust, respect, transparency, commitment, friendship and professionalism. Unfortunately, the merger of the science and math departments put together two different worlds which did not negotiate new rules, new division of labour, new artefacts or a new shared object. On the contrary, they tended to protect what they had developed over time, which led to conflict and communication rupture.

# CHAPTER 6

## Leadership Practices and Systemic Contradictions

### 6.0 Introduction

In chapters 4 and 5, I presented the activity systems of the social science and math-science departments, respectively. I analysed how different leadership practices affected each system's components and produced disturbances which threatened the stability of the system as a whole. In this chapter, I apply CHAT to connect disturbances with historically-developed contradictions. Contradictions are distinct from disturbances in that many disturbances may map onto a single contradiction. Identifying contradictions at the school level is crucial for understanding how the actions of school leaders affect organisational change at the department level.

Disturbances such as disagreements, criticisms, and misunderstandings highlighted three sources of contradictions which affected department activity: conflicting leadership practices between the vice-principal and the department leaders, lack of authority of the heads of department, and the inability of the heads of departments and authorities to overcome distrust and improve friendship within their communities. The vice-principal and the department leaders did not deal with the contradictions and, as a result, their relationships deteriorated. A similar situation was observed inside the departments: the heads and the teachers did not solve the contradictions. Thus, the social science and math-science communities became weakly bounded and dysfunctional communities.

Chapter 6 is structured as follows. Section 6.1 analyses primary contradiction in the object of the activity. Section 6.2 analyses the secondary systemic contradictions stemming from Mr George's leadership practices in both the social science and math-science departments. Section 6.3 and 6.4 examine primary and secondary systemic contradictions in the merged department and in the social science activity system respectively. Section 6.5 presents a summary of findings and discussions, which conclude the chapter.

## 6.1 Analysing the primary systemic contradictions: Mr George and departments

CHAT distinguishes four levels of contradictions: primary, secondary, tertiary and quaternary contradictions. In this section, I identify the occurrence of both primary and secondary contradictions. Because the school leaders did not attempt to work collectively to solve the primary and secondary contradictions of the English School, there were no tertiary or quaternary contradictions in the context of this research.

### 6.1.1 Mr George's leadership practices

As it was shown in Chapters 4 and 5, Mr George's intended object (i.e. improving students' academic performance in the PSU and SIMCE national tests) and his leadership practices created disturbances in both the social science and math-science departments. The rules, division of labour, artefacts and community were mainly affected by his actions, and the resulting disturbances appeared in the form of disagreements, complaints, miscommunications and criticisms.

The leadership practices of the vice-principal and the heads of department's leadership practices surfaced the disturbances identified in chapters 4 and 5. Mr George employed active transactional leadership to

accomplish his intended object. The characteristics of Mr George's leadership practices were:

(i) *Normative and restrictive relationship*: Mr George's role as an active transactional leader was to make sure that all the school leaders followed the requirements of his intended object. Those who did not meet his requirements were sanctioned. Mr George understood his leadership role as a permanent supervisor of the school activities. He adopted actions to monitor the school leaders' performance and he took corrective actions if they failed to meet his standards. He was once walking along the corridors with me when he recalled:

> When I joined the school, one of the teachers told me that he thought my job was about supervising and controlling the teachers' activities. I told him that I really had to do that because of their laziness: the teachers' timetables were not being fulfilled … they were always late. If I have to be a controller, so be it … I was hired precisely for this reason …

(ii) *Hierarchical and authoritarian relationship:* Mr George's leadership practices relied heavily on his position of authority because math, social science and science teachers believed that their position within the school was limited to be functionaries of Mr George's own self-interests (intended object)

(iii) *Distrust relationship*: The relationship between Mr George and staff was subscribed to a transactional framework: He explicated clearly that his intended object was to increase the students' academic results in the national tests to recover the trust of the parents. He informed teachers what was required of them and what compensations they were to receive if they fulfilled these requirements. When asked about the teachers' disagreement with his actions, Mr George indicated:

> The teacher who disagrees with these measures will have to find another school. If someone disagrees, it is because he or she no longer feels part of the school. Moreover, the working environment is negatively affected when a teacher is openly against the school policy.

Thus, Mr George's transactional leadership was characterised by his controlling, authoritarian and normative practices, and his distrust of the teachers' performance and commitment to the school. The following section examines the systemic contradictions between Mr George's leadership and the school departments.

### 6.1.2 Mr George initiates a primary contradiction in the object

As it was advanced in Chapter 2, Engeström (2009) proposes that contradictions can be found in the value that is attained to the object of an organisation. The values embedded in the object can be categorised as use value and exchange value. I found that the leadership practices of the school leaders (i.e. Monica, Sam, Paul and Kristy) and Mr George´s leadership practices differed regarding the use and exchange values that they attained in the shared object of their activity. Figure 6.1, depicts the primary contradiction within the shared object of the activity.

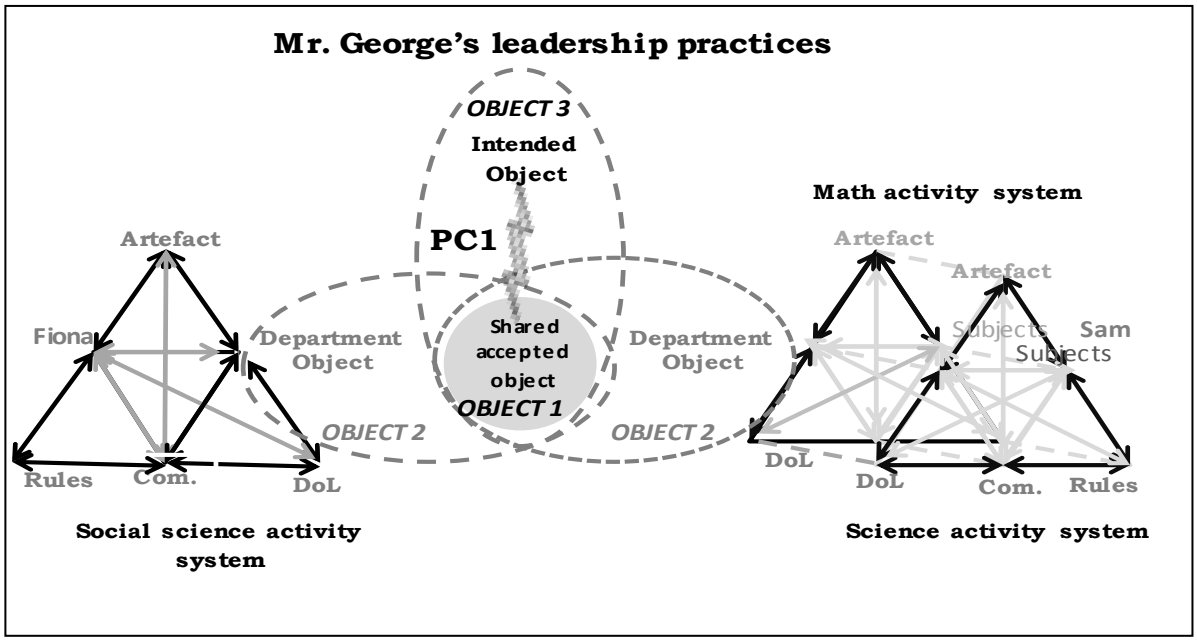



***Figure 6.1*** **The primary contradiction (PC) inside the shared object of the activity**

Figure 6.1 represents how Mr George's leadership practices affected both activity systems. The departments and the vice-principal did not create a share accepted object (primary contradiction, PC1) to their practices. The two triangles on the right side represent the merged math-science activity system and the one on the left represents the social science activity system. The two activity systems are examined in relation to the shared accepted object (Object 1), department objects (Object 2) on which the department leaders (i.e. Monica, Sam, Paul, Kristy and Fiona) worked, and the intended object promoted by Mr George (Object 3). The dashed lines illustrate the inter-relationship between the objects. The leadership practices of the school leaders translated the shared accepted object (Object 1) inside their activity systems. They created artefacts, rules and division of labour which were in harmony with the shared accepted object of the activity. The lightning bolt indicates the primary contradiction (PC1) in objects 1 and 3, the shared accepted object and Mr George's leadership practices. The contradiction is found in the intersection of the three objects. I will explain this contradiction herein.

### *6.1.3 Mr George's practices stressed the exchange value of the object*

Mr George stressed the exchange value of his intended object (object 3 in figure 6.1): "improving the students' performance in the PSU and SIMCE national tests". He felt he had to be the fulfiller of the school's needs of academic excellence. Mr George's understanding of his own object was motivated by the parents' frustration regarding the academic performance of the students and he believed he had to keep the parents satisfied. Mr George commented during an interview:

> My objective is to achieve academic excellence. The school board trusts me. My mission is making it possible for the school to change and to regain the parents' trust on what their children are taught. The parents need to feel that they are making a good decision when choosing this school. The school must change

> because we need the parents to feel happy and safe. It is important that the teachers understand that the school needs to change. The teachers must be aligned with these changes, this is very important …

However, the department leaders and Mr George had contrasting understandings of the object. Veteran department leaders like Sam, Monica, Paul and Kristy complained against the changes, particularly when the changes threatened their accepted shared object (i.e. Object 1 in figure 6.1). Mr George and the department leaders did not solve this primary contradiction by modelling new patterns of practice (i.e. new artefacts, object, and so on). The above excerpt shows that in the vice-principal's view, the teachers had to understand the changes that he was promoting and act in harmony with them. When asked about the motivations of the changes promoted by Mr George, the school leaders indicated:

> Many parents believe that the School is not strict enough in emphasising the academic performance of its students. There is a need for changing the traditional goals in order to reassure the parents of the correctness of their choice (Sam, interview).

> The students are considered to be the means for achieving reputation and credibility. The students believe that achieving good scores in the SIMCE and PSU tests is just a marketing tool. I believe that the school is leaving the integrative education of the students behind. (Monica, interview)

As this excerpt shows, Monica addressed the primary contradiction when she emphatically claimed that Mr George's intended object was disengaged from the students' educational needs. Moreover, the department leaders argued that the students were left behind because the real motivation of Mr George's intended object was the reputation of the school.

Thus, the contradiction was aggravated because the teachers did not accept the imposition of the exchange value of Mr George's object. On the contrary, the department leaders identified their department object (object 2 in figure 6.1) with the accepted shared object (object 1 in figure 6.1)

because it had been improved and agreed after years of collaborative working. As Monica summarised it after having a meeting with Mr George:

> I had a conversation with Mr George yesterday. I told him that something that made me feel uncomfortable was his complete unawareness of the history of the school. For example, he has changed break times, meeting schedules and the teachers' academic-performance evaluation system. When you do that you ignore the school history, and the fact that our achievements are the result of having tried many formulas … the result of many hours of conversation and hard work. We did not stop until we finally found the best formula. For this reason, when you promote all these changes, your message is that you do not acknowledge the teachers achievements, like if nothing had been done here … like if everything were wrong. I did let him know that this is causing dissatisfaction among the teachers. The school project is part of our history.

The above excerpt emphasises how the teachers had attributed meaning and history to their shared accepted object (cf. Engeström & Saninno, 2010). It is also important to highlight how the school leaders had made the school project their own project, they took ownership of it. They had built a school project over years of hard work and they wanted to be acknowledged and respected.

### 6.1.4 *The department leaders' practices stressed the use-value of their object*

The leadership practices of the department leaders stressed a use-value of their department object (object 2 in figure 6.1). They identified the objects of their departments with the shared accepted object of the school (object 1 in figure 6.1). The object of the social science department was "consolidating the reputation of their professional community". The science department's object was "improving the teaching and learning processes based on collaborative participation, mutual trust and close friendship". Finally, the math department's object stressed "improving teaching techniques and making maths meaningful to the students". Overall, the object of the departments was "improving teaching learning processes". For

the teachers, Mr Bryan's leadership practices had emphasised trust and collegiality, which contributed to creating a secure working environment. Moreover, they had perfected it over time. Not surprisingly, the school leaders interpreted Mr George's new policies as a loss, they had lost their project and they had lost the authority's trust. Mr George was perceived as the new and sole designer of the school project and the teachers felt as mere functionaries who needed to be constantly monitored.

In short, the intended object promoted by Mr George was openly criticised by the department leaders and teachers. There were two contrasting objects of the activity: the intended object defined by Mr George (focused on raising the SIMCE and PSU tests scores) and the shared accepted object of the activity (i.e. delivering good teaching quality that integrates academic knowledge and education techniques). Mr George sought to impose an object; he believed the school needed to recover its reputation and credibility. The educational project of the school was re-interpreted according to the different motivations of the participants. Mr George and the teachers did not negotiate a new shared object (i.e. new rules, artefacts, division of labour), which aggravated the contradiction.

### *6.2 Analysing the secondary systemic contradictions: Mr George's leadership practices and department leaders*

Engeström (1999) has pointed out that "while the primary contradiction of the object is not solved, it evolves and takes the form of specific secondary contradictions as the activity system interacts with other activity systems" (p. 67). The contrasting perspectives of Mr George's intended object and the shared accepted object of the department leaders (primary contradiction) spread through the math-science and social science activity systems (secondary contradiction). Figures 6.2, 6.3, and 6.4 illustrate

three secondary contradictions in the interconnected activity systems (i.e. math-science and social science activity system), namely:

(i) A contradiction surfaced when the imposition of the new demands of the vice-principal transgressed the accepted rules of the departments, which supported collaborative working styles (SC1 in Figure 6.2).

(ii) Another secondary contradiction emerged when the authoritative leadership style of the vice-principal undermined the authority of the heads in matters pertinent to their departments (SC2 in Figure 6.3).

(iii) A contradiction emerged when the vice-principal and the departments did not agree on which artefacts were necessary to accomplish their objects (SC3 in Figure 6.4).

All three secondary contradictions originated in Mr George's intended object and his transactional leadership practices. I analyse each of these contradictions in turn.

***Secondary contradiction 1 (SC1):***

There was a contradiction between the intended object represented by Mr George's leadership practices and the rules of the shared accepted object concerning the traditional collaborative working style of the departments. To the teachers, the shared project had emerged from the departments, from the teachers themselves. In their opinion, Mr George had moved the centre of academic discussion from the department staff rooms into his own office. Mr George´s leadership practices had replaced spontaneous, trustworthy and difficult-to-control forms of teacher-generated collaboration with "forms of collaboration that were captured, contained, and contrived by administrators instead" (Hargreaves, 1994, p. 196). The

teachers had been "forced" to reassign their priorities and had been "left out" of the school project design. In short, the teachers believed that building a shared object involved a bottom-up construction process, but Mr George believed in a top-down construction process.

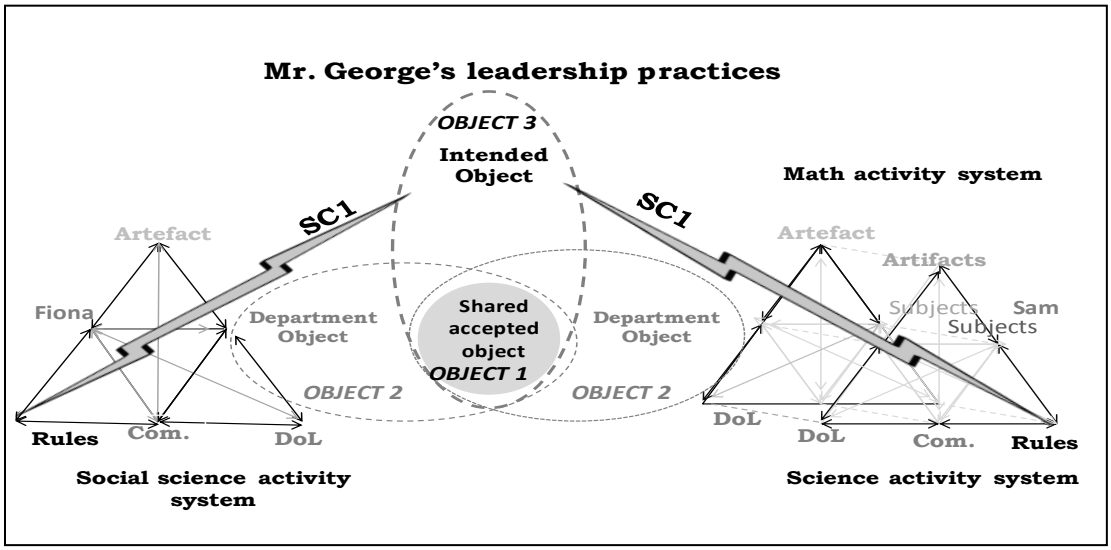



***Figure 6.2*** **The secondary contradiction (SC1) between the intended object of Mr George and the rules of the departments**

## ***Secondary contradiction 2 (SC2):***

Mr George´s transactional leadership clashed with the transformational leadership practices of Sam, the head of department. As presented in Chapter 4, Sam had adopted a transformational approach to deal with the novice math teachers. Sam motivated and guided the teachers to pursue and achieve the group's object, inspired the teachers through his personal example, created a trustworthy working environment and encouraged the teachers' professional development. As a result, Sam had gained credibility and legitimacy among his colleagues. However, when Mr George intervened in the department, overriding Sam as head, he violated the rules that supported Sam's transformational leadership. The exchange-value

orientated object of Mr George required different artefacts, new division of labour and new ways of organising work (rules) than those utilised by the head of the math-science department. Mr George's rules were perceived as authoritarian by the teachers, which contrasted with Sam's transformational leadership practices.

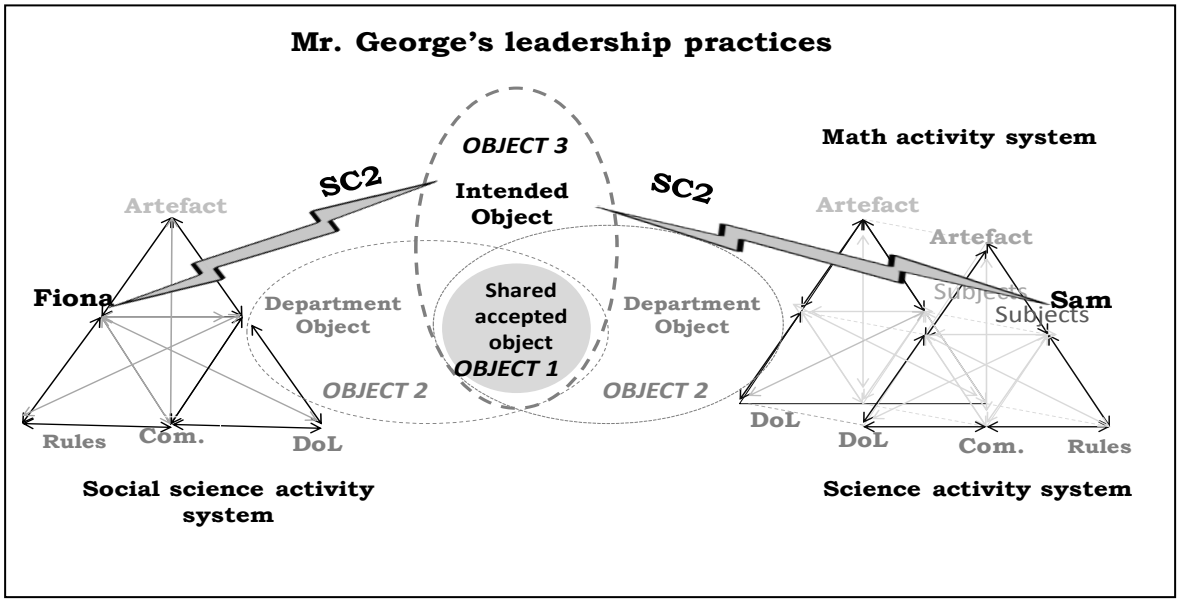



***Figure 6.3*** **The secondary contradiction (SC2) between the intended object of Mr George and the heads of the departments**

## ***Secondary contradiction 3 (SC3):***

There was a third contradiction between Mr George's intended object and the artefacts (i.e. optional subjects, field trips) designed by the teachers. The established artefacts of the departments were inadequate for achieving Mr George's intended object because they were created to serve the departments' shared object. Moreover, the teachers reported that designing their artefacts through collaborative work used to be a very profitable time for all of them. Thus, things changed dramatically when Mr George

changed the academic objectives of the math-science optional subjects, cancelled the fieldtrip to the Interactive-Museum, and modified the lesson plans and block schedules. The teachers understood that their object and their artefacts had become obsolete and interpreted the measures as a sign that the shared accepted object of the school was changing. The following comment of Sam is illustrative in this regard:

> The authorities have decided that what we should seek better students' scores in the PSU and SIMCE. Thus, we do not need physical education because it does not contribute to improving the scores …let's cancel social projects because it is a waste of time and money … why should we have field trips? They cost a lot of money … Training the students in the SIMCE and PSU tests is much more profitable because we can appear on the top school rankings.

The quote shows that the new artefacts promoted by the intended object of Mr George (i.e. new optional subjects, additional lessons) clashed with the artefacts promoted by the departments' objects. The teachers concluded that the authority did not trust their work. The contradiction was not solved and it produced a profound sense of frustration and distrust towards Mr George.

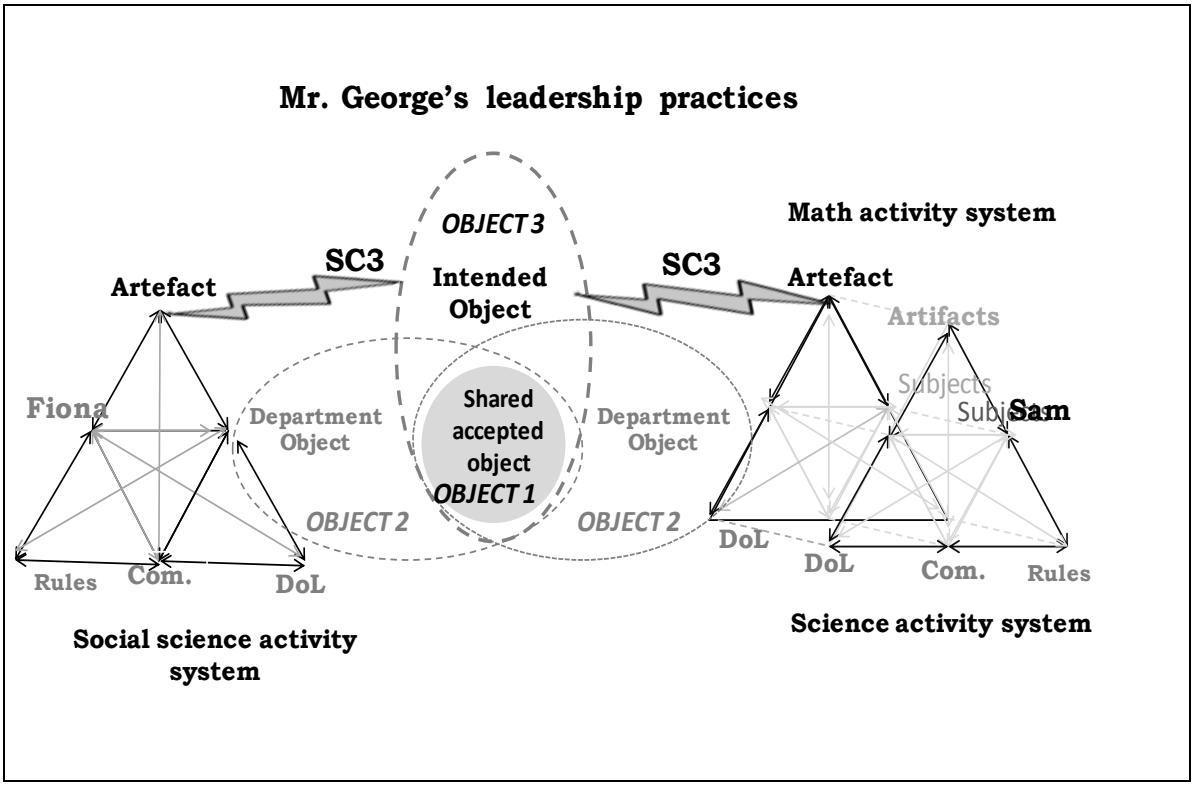



***Figure 6.4*** **The secondary contradiction (SC3) between the intended object of Mr George and the artefacts of the departments**

## *6.3 Analysing systemic contradictions in the merged department*

In this section, I identify and analyse contradictions that obstructed the implementation of the organisational change within the departments. The heads of department did not negotiate the legitimacy of their leadership practices with their communities. They ignored that authority is mutually and dynamically constructed through the appropriation of common motives and objects (Engeström & Middleton, 1996). Sam's and Fiona's lack of authority as department leaders affected the unity of their communities; they were no more than a disparate collection of individual performances. Finally, the lack of authority of the heads hindered

processes of negotiation, and the contradictions were not resolved. I analyse the contradictions of each department in turn.

### *6.3.1 Primary contradictions in the merged math-science department*

The merger of the former math and science departments imposed an external pressure on the teachers. The distinctive identities of the departments were brought together and the leadership practices that followed the merger tended to preserve the two original departments' distinctiveness.

**Primary contradiction 1 (PC1):** Sam experienced a primary contradiction when trying to prioritise his leadership styles as department head. He had to choose between following Mr George's instructions which required a transactional leadership practice, or maintaining his current collaborative distributed leadership practices. The result was that Sam adopted transactional leadership toward his science colleagues. His leadership practices toward the science group were about control, supervision and coordination. Sam's transactional leadership practices clashed with the characteristics of the science group and with Monica's authentic leadership. Working on Mr George's intended object, attending the needs of the two novice math teachers and acting as the new leader of the science teachers were major challenges for him.

**Primary contradiction 2 (PC2):** ***Monica experienced a primary contradiction when the merger affected her identity as leader of the department.*** Monica's leadership practices kept the science community focused on their object (i.e. developing students' skills through a meaningful understanding of the scientific method). However, the merge

caused a conflict in their community's identity. The science teachers indicated that they felt like they were "in the middle of a conflictive situation".

Monica experienced great difficulty in adopting the new identity of the merged department. Roth (2007, p. 56) defines identity as a "derivative construct in the sense that it presupposes the existence of the subject who, regulated by emotions, engages with an object of motive-directed activity, and who becomes aware of itself as self". Object and identity are necessarily linked. When asked about how she managed the new scenario, Monica indicated:

> Slowing down bothers me a lot. I like to be always organising things. My mood is not the same today, I feel uncomfortable. I try not to fall into apathy. I'm keeping myself away of many department activities. I do this to show the authority that this decision was not for the best. Some time ago everyone used to be involved in many activities; I used to work side by side with my team, because I did not mind working hard. Today the scenario has changed; my task is about making propositions, not about leading. In my opinion this is not the best scenario …

This quote shows that Monica was experiencing exclusion, she kept herself away from many department activities and she didn't work with her colleagues as intensively as she did before the merge. She changed her role and position in the division of labour of the merged department. Her reaction could be likened to the concept of non-participation (cf. CHAT). Non-participation constitutes a "moment when a person is accommodating in participation and yet is experiencing an exclusion from any normative identification" (Hodges, 1998, pp. 272-3). Hodges (1998, p. 273) suggests that nonparticipation "describes conflict between a person's activities and their participation, a rupture between what a person is actually doing and how a person finds themselves located in the community".

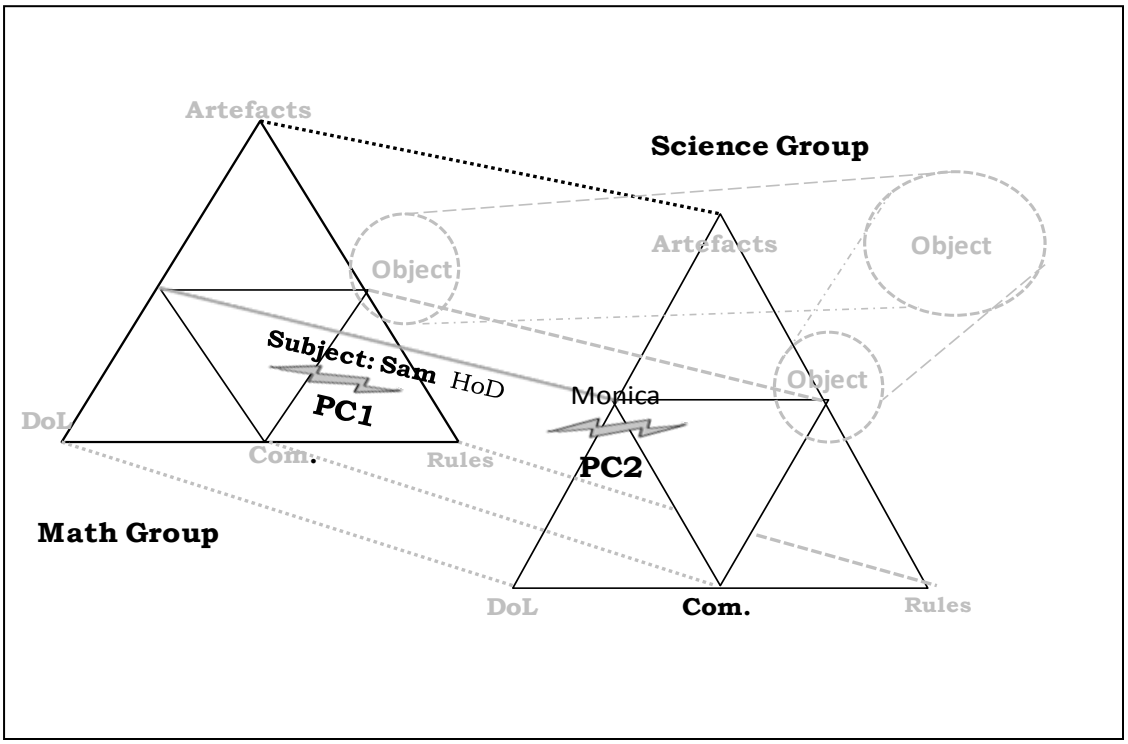



***Figure 6.5*** **The primary contradictions (PC1 and PC2) within the subject and the community of the merger department**

### *6.3.2 Secondary contradictions* in the merged math-science department

The primary contradiction in the subject of the merged department (i.e. Sam prioritised coordination instead of collaboration when dealing with the science teachers) and in the science community (i.e. identification of problems) was not solved, and it evolved into secondary contradictions. I identified the following five secondary systemic contradictions:

(i) A secondary contradiction emerged when Sam and the science teachers did not negotiate a new shared object after the merger and as a result the math-science department had no direction (SC1).

(ii) Another secondary contradiction surfaced when the leadership of the head of department did not fit in the collaborative working style of the science teachers (SC2)

(iii) A contradiction emerged when Sam, the head of the merged department, and the science teachers did not negotiate the way in which the quality of their work (e.g. artefacts) would be preserved after the merge (SC3).

(iv) A contradiction came up when the science community struggled to build a closer relationship with the head of department (SC4).

(v) There was a contradiction when the science community transgressed the rules that regulated their codes of conduct (SC5).

**Secondary contradiction 1 (SC1):**

A contradiction emerged between Sam's leadership practices and the community concerning the purpose of their activities. Sam, the leader of the math group and Monica, the leader of the science group, did not negotiate new objects nor aligned them with the new objectives imposed by Mr George. Without authority among the science teachers, Sam was unable to influence their colleagues to build a new object of the merged department.

**Secondary contradiction 2 (SC2):**

A contradiction emerged between the transactional leadership practices of the head of the merged department and the rules which supported collaborative work of the science group. The social science teachers had consolidated a working style that emphasised discussion and participation supported in their closeness through professional and personal friendship. However, Sam was seen as an outsider and distant leader by the science community because he was not involved with their activities and didn't

give priority to them. The disturbances such as rule violations, disagreements, public criticism, complaints and misunderstandings (see Table 6.1) made visible that Sam struggled to legitimise his authority among the science teachers.

**Secondary contradiction 3 (SC3):**

There was a contradiction between the transactional leadership practices of the head of the merged department and the artefacts which supported the collaborative work of the science group. The design of artefacts (e.g. science expo, science project) was considered by the science community as an opportunity to encourage collaboration. Hence, the disturbances emerged in the form of disagreements and complaints when Sam did not give priority to them. The science teachers were disappointed about Sam´s lack of interest and involvement in their activities.

**Secondary contradiction 4 (SC4):**

There was a contradiction between Sam's leadership practices and the expectation of the science community about his role as the head of department. The changing environment caused by the merger encouraged the science teachers to align themselves with Monica's leadership; they trusted that her values would serve the community. The authority of Monica's leadership practices rested on her friendship, credibility, transparency and closeness toward her colleagues of science. She demonstrated understanding of her group's dynamics, she knew her colleagues. In contrast, the science teachers believed that Sam was an inappropriate leader for their community. The distant personal and professional relationship with Sam was constantly mentioned as a barrier to build a unified department.

**Secondary contradiction 5 (SC5):**

Monica influenced her colleagues' views about the merger. In their attempts to protect their activities, the science teachers transgressed the former rules of the department which privileged friendship and trustworthiness. They violated the rule stressing that the science teachers solve their problems through dialogue and participation of every teacher. The contradiction emerged in the form of betrayal. Reina and Reina (1999) describe three kinds of betrayal in the workplace, those relating to contractual, competence and communication trust. Competence betrayal occurred when the science teachers believed that Sam did not meet their expectations as head of department. Communication betrayal occurred when, due to their strong identification with their object and artefacts, the science group manifested their frustration and vocally demanded change. An expression of the communication trust occurred when the science teachers criticised Sam's apathy about the Science Expo. The science teachers criticised Sam's leadership practices and his poor commitment to their group. This event increased the sense of distrust and accentuated the differences between the two groups. Monica denounced the inaction and ineffectiveness of Sam as the head of department in the presence of the vice-principal, which can be interpreted as a betrayal between colleagues. Elangovan and Shapiro (1998) proposed that a person will be motivated to betray another based on a negative assessment of the current situation such that person believes there is more to be gained than lost by betraying the other person´s expectations. Low satisfaction with the current situation will increase the likelihood of betrayal by lowering the benevolence and integrity of the trusted person (Reina & Reina, 1999).

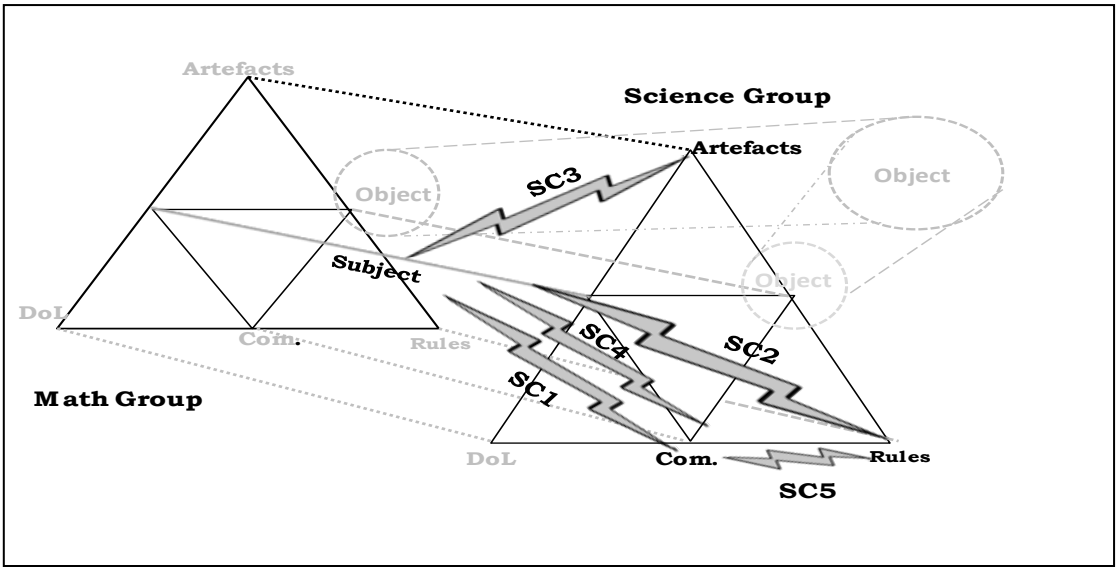



***Figure 6.6*** **The secondary contradictions between the components of the activity system in the merged department**

Figure 6.6 shows how the set of contradictions centred on the community and rules of the science group. The lightning bolts indicate that the contradictions were located within the science-group activity system.

## 6.4 *Analysing systemic contradictions in the social science department*

Mr George's appointment of a novice teacher as head of the social science department affected the leadership practices in the department. In this section I identify and analyse two primary contradictions (i.e. in the subject and the community) and three secondary contradictions. Consistent with CHAT, I found that because the leader and the teachers did not solve the primary contradictions, the conflicts spread to other components of the system such as rules, artefacts and division of labour. As a result, a deep sense of frustration and lack of trust accentuated the fragmentation and isolation of the members of the department.

### *6.4.1 Primary contradiction 1 (PC1)*

The disturbances pointed out one source of primary contradiction: A contradiction surfaced when Fiona's lack of authority before her colleagues and the pressures of the vice-principal left her with limited capacity to influence the department activities (PC1). Figure 6.7 illustrates the primary contradiction in the social science department which was centred on the subject of the activity system.

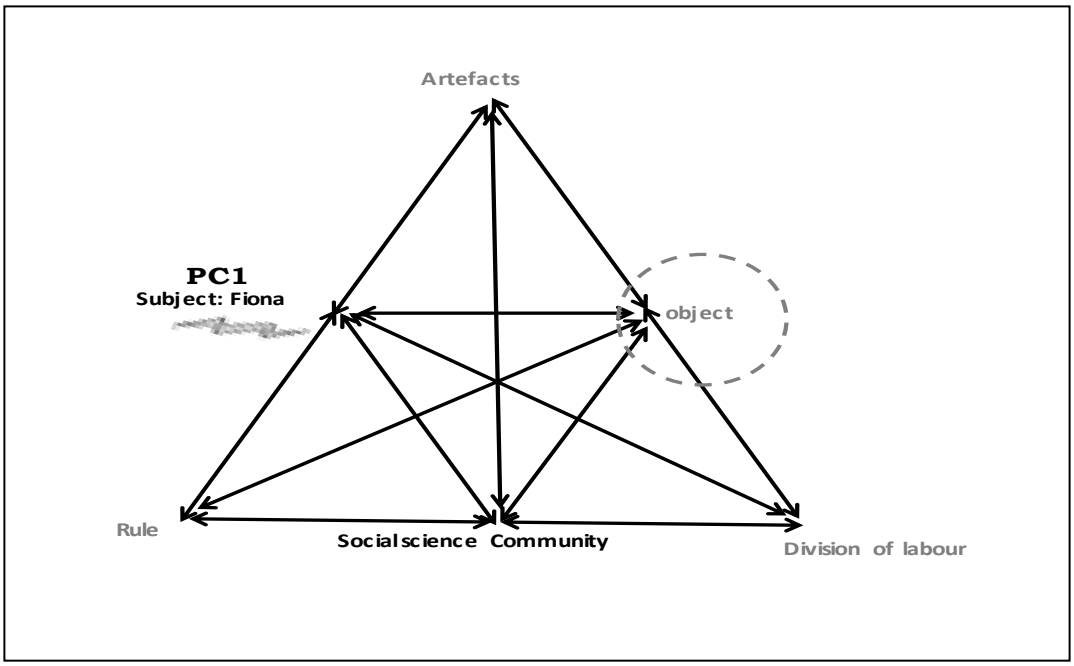



***Figure 6.7*** **The primary contradiction (PC1) within the subject of the social science activity system**

Fiona had to decide between following the commands of Mr George, or gaining her colleagues' acceptance. However, Fiona's brief working experience and her discredited reputation in discipline knowledge undermined her authority as head of department. Without authority, Fiona was unable to influence her colleagues and department activities. To her colleagues, Fiona's leadership practices had weakened the object of the department (i.e. working together in order to make the discipline more meaningful to the students by improving teaching practices). In contrast,

Paul and Kristy were aware of their professional competence and this awareness gave them confidence and authority. Disturbances took the form of criticisms, disagreements, rule violations, misunderstandings and rupture of communication (see Table 4.2). The social science teachers did not solve these contradictions, which in turn increased distrust among the social science teachers (e.g. Paul and Kristy left Fiona out of the main decisions of the department). Thus, the social science department was characterised by independent practices rather than collaborative working.

### 6.4.2 Secondary contradictions in the social science department activity system

I identified the following four secondary contradictions in the social science department:

(i) A contradiction was manifested when Fiona's leadership practices violated the rules concerning the professional performance of the social science community (SC1).

(ii) A contradiction emerged when Fiona's leadership did not meet the expectations of the social science teachers (SC2).

(iii) A contradiction surfaced when the head and the social science teachers disagreed regarding the artefacts of the department (SC3).

(iv) A contradiction appeared when the teachers transgressed the rules to protect the department from the lack of expertise of the head (SC4).

***Secondary contradiction 1*** **(SC1):**

Fiona's lack of legitimacy as a leader of the department depended upon the appropriation of the rules of the social science activity system. Fiona violated the accepted rules that governed the distribution of resources, the design of artefacts, the codes of conduct and the rhythms of work of the department. For the social science teachers these rules were the foundations on which their professional community was standing. Paul and Kristy had created rules that gave them control over the distribution of resources and over the field trips. Paul and Kristy joined forces to keep the traditional rules of the department, which aggravated the contradiction.

**Secondary contradiction 2 (SC2):**

The social science department was a community of learners characterised by experimentation and reflection. Therefore, authority meant expertise and discipline knowledge. Being competent legitimised the leaders' position of influence before the professional community (Edwards et al., 2010). The disturbances for this contradiction were particularly visible when Fiona was criticised because of her poor discipline command. She violated the rules stressing that social science teachers endeavour to maintain and improve the reputation of the department in the eyes of the school authorities.

**Secondary contradiction 3 (SC3):**

In response to Fiona's lack of competence, Paul and Kristy adopted transactional leadership practices. Fiona's authority as department head was articulated by inflexible rules and arbitrary division of labour. This systemic contradiction emerged when Fiona violated the rule which

specified that Paul and Kristy made the decisions involving department activities. The new field trips proposed by Fiona and Kelvin challenged the old practices protected by Paul and Kristy. Thus, Paul and Kristy rejected the field trips proposed by Fiona and Kelvin. The inflexible division of labour made it difficult for the rest of the staff to creatively participate in the innovation process. Because the contradiction was not solved, there was much confusion about the locus of authority inside the department. Paul and Kristy revealed high levels of tension, resistance and resentment in their interactions with Fiona and the contradiction was not resolved.

**Secondary contradiction 4 (SC4):**

According to Paul and Kristy, Fiona never had what it took to be the head of department. For them, Fiona had demonstrated poor working experience and lack of authority, which disqualified her to be the formal leader of the department. This contradiction was visible when Kristy went to Mrs Judy and complained about Fiona´s new field trip. Paul criticised Fiona for her poor discipline knowledge, which violated the codes of loyalty among teachers. Reina and Reina (1999) suggest that criticising others' incompetence is an evidence of betrayal. They call this kind of betrayal, "competence betrayal". According to Reina and Reina (1999) competence betrayal may also be related to other dissatisfactions. In fact, Kristy and Paul were motivated to violate the rules of the department because they had negative expectations, frustration and dissatisfaction with Fiona's leadership practices.

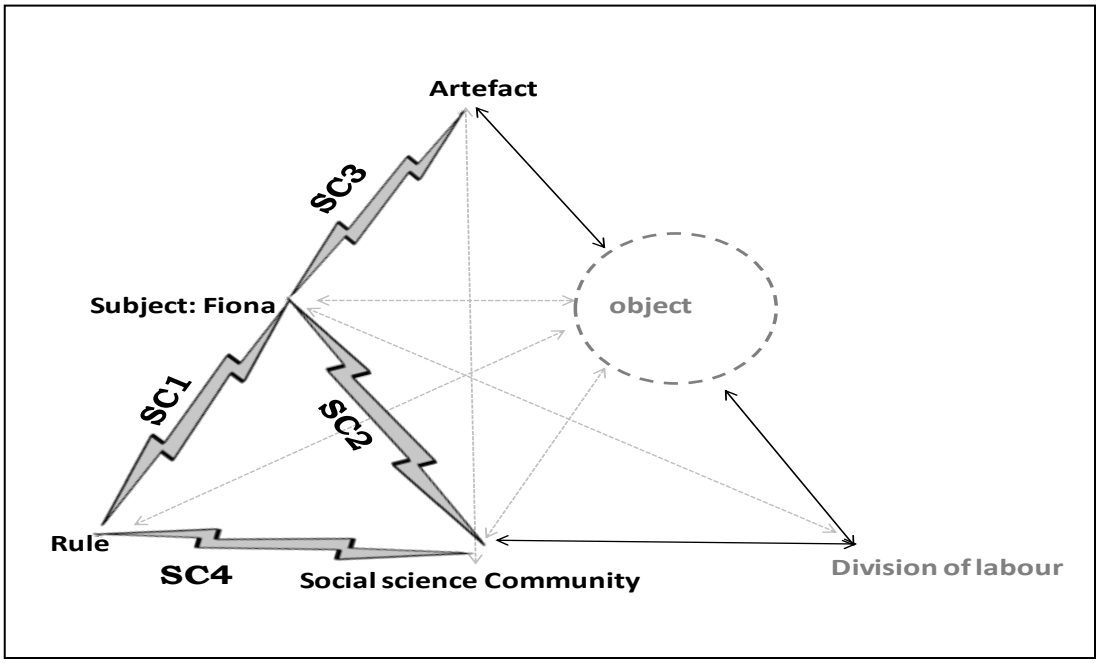



***Figure 6.8*** **Secondary contradictions between the components of the social science activity system**

## 6.5 Summary of findings and discussion

In this chapter, I have analysed several systemic contradictions in two activity systems of the English School: The math-science activity system and social science activity system. I utilised the third-generation of CHAT to expand the analysis of these two interconnected activity systems. I identified the intended object, shared and department object.

First, there was a primary contradiction in the shared accepted object of the activity. In fact, the vice-principal and the department leaders did not agree about the values and motives that inspired the traditional shared object of the school. There were those who believed in the use value of the object (which was one of the school's foundations under Mr Bryan's administration), and the exchange value orientation of the object that Mr George promoted.

There was no negotiation of the objects between Mr George and the department leaders. Moreover, there were conflicting values behind the leadership practices of Mr George and the department leaders. The transactional leadership practices of Mr George when dealing with the heads of departments undermined their status before their communities. They were unable to gain acceptance and credibility and their lack of authority gave way to the advent of natural leaders who resisted the innovations promoted by Mr George. As a result, the departments became dysfunctional and fragmented.

Mr George´s exchange-value orientated leadership practices penetrated all corners of the department activity systems. Consistent with this approach, Mr George applied vertical and horizontal division of labour. The science, math, and social science teachers felt that the leadership practices of Mr George were more about distrust and control rather than encouragement and collaborative working. This contrived collegiality (Hargreaves, 1994), failed to create an enduring collaborative culture and undermined those elements of trust, support, and relaxed informality that already existed. Moreover, the exchange value of Mr George's intended object was seen as a means to please the parents and increase profitability which clashed with the values that the teachers had built for many years (i.e. trust, friendship, professionalism, commitment). This ultimately led the teachers to demotivation, distrust and withdrawal.

The contradictions were aggravated among the science teachers because they were a more cohesive group than the math group. Science teachers strongly argued that the merger had damaged the routine of their department. The merge was a major organisational change that had a substantial impact on the social identity of the teachers. The two groups exhibited distinctly different cultures (cf. Siskin, 1991). During the

turmoil of the merge, both groups violated their previously accepted rules and betrayed what they had committed to protect.

Finally, Mr George was unable to motivate the teachers to change their department practices, and the teachers turned against him. His leadership practices conflicted with the division of labour, rules, artefact and objects of both departments. Disturbances and systemic contradictions disrupted the whole activity system. The next chapter provides a discussion of findings, answers the research questions, and advances the theoretical and practical implications of this research.

# CHAPTER 7

## Discussion of Findings and Further Research

### 7.0 Introduction

In this thesis I have applied Cultural-Historical Activity Theory (CHAT) to study school leadership and organisational change. I set out to examine how the English School went through the change process, paying particular attention to the disturbances and contradictions involved in the change. Using CHAT as a theoretical lens afforded me the opportunity to identify and explain the dysfunctional activities of the activity systems examined by this research. I identified and described the systemic components being affected by the leadership practices that brought disturbances into the social science and math-science activity systems. I used the third generation of CHAT to connect disturbances with systemic contradictions. I found that implementing organisational change successfully in schools relies largely on how the school departments work as activity systems, how their leadership processes take place and how the organisational change can be aligned with and reinforced by the systemic components of the school departments.

This chapter is structured as follows. Section 7.1 advances a review of the research questions that guided the study, which were presented in section 1.3. Section 7.2 discusses the main findings of this thesis. This discussion leads to the theoretical and practical implications of the study, which are presented in section 7.3. Sections 7.4 and 7.5 conclude the chapter with the limitations of the study and relevant topics for future research, respectively.

## 7.1 Review of the research questions

This research aimed to find out how school leaders' practices influence department activities during school transformation or organisational change. It focused on addressing three research questions.

### 7.1.1 What kind of leadership practices does the head of department adopt when facing the demands of the school authorities during periods of organisational change?

The findings show that heads of departments are the intermediaries where the leadership practices of the school authorities and the department teachers converge. The heads of department are doubly accountable because they must meet the expectations of the school authorities who seek to implement the organisational change and the department teachers who see them as the guardians of the objects and artefacts of their community.

Mr George's active transactional leadership undermined the authority of the heads of departments before their communities. Those practices were the means to accomplish the vice-principal's own object. For instance, Mr George's active transactional leadership (characterised by his normative, controlling and authoritarian practices) caused Sam to adopt two contrasting leadership practices. Sam exerted passive transactional leadership when he dealt with the science teachers and he used transformational leadership to deal with the math teachers. Similarly, Fiona adopted passive transactional leadership practices to deal with the social science department. Both Sam and Fiona focused their leadership on coordinating their colleagues so that they would stick to the plan mapped by the vice-principal. In both cases, the heads attempted to align

the department activities with the new school objectives, which led them to use transactional leadership practices. Their passive transactional practices arose after Mr George's standards had not been met in order to take corrective action (cf. Richards, 2012). Planning, organising, coordinating and scheduling were their main leadership practices (cf. Sergiovanni, 1984).

Adopting transactional leadership to implement organisational change had devastating consequences on the internal stability of the departments' activity systems. Overall, the transactional leadership practices adopted by the heads threatened critical systemic components such as the object, artefacts, rules, community and division of labour, compromising the systemic stability of their departments and producing resistance to the change. In turn, resistance to change was carried out by new department leaders (e.g. Paul, Kristy, and Monica) who intended to protect their communities. As a result, the authority of the heads of departments was undermined and the systems became dysfunctional.

### 7.1.2 What other leadership practices arise when implementing organisational change?

I identified and analysed two sets of leadership practices that emerged from the departments: Monica's leadership (science teacher) and the strong partnership between Paul and Kristy (social science teachers). Both sets of leadership practices played critical roles in the departments' resistance to the organisational change.

Monica exerted authentic leadership. Her leadership practices positively affected cohesion and collaborative working. She used dialogue to consolidate authentic relationships based on trust and friendship. She strengthened the bonds among the science teachers, influencing critical

systemic components such as the shared object, community, division of labour and rules. For instance, she pushed the teachers to build a shared object for their activity, which kept the teachers committed to it. In the end, this trustworthy collaborative working environment and the shared object facilitated Monica's influential role against the merger. She persuaded the teachers to protect their object, artefacts and division of labour and to stand against the merger. Her practices were consistent with authentic leaders who "may have to be manipulative at times for what they judge to be the common good" (Bass & Steidlmeier, 1999, p. 186). This is probably why a much larger number of disturbances were found in the math-science department compared to the social science department. Monica encouraged the teachers to join her in rejecting the merger and Mr George's innovations, which caused many complaints, disagreements and communication ruptures.

Paul and Kristy enacted their concerted leadership practices towards Fiona and the rest of the teachers, which reinforced their position of authority in the department. For instance, they used both transformational and transactional leadership practices to deal with Fiona, the novice head of department. They advised her on how to improve her performance as department head and teacher (transformational leadership), but they also diminished her role and kept her actions under their control (transactional leadership). Thus, Paul and Kristy's concerted leadership undermined Fiona's authority as department head not only before the department community, but also before the school authorities. In addition, Paul and Kristy adopted shared instructional leadership when dealing with the object and artefacts of the department. The entire school community recognised Paul as a discipline expert. Kristy was acknowledged for her strong personality and discipline knowledge. They saw each other as equally competent; they were the specialists and knowledgeable teachers while Fiona and Kelvin were the receivers of the authorised material that

they prepared. This is consistent with De Lima (2001, p. 109) who argued that friendship, "especially at deep levels, is developed among people who view one another as similar". Thus, their concerted instructional practices enabled them to act as the guardians of the object and artefacts, create rules to protect them and punish those who transgressed them.

Taken together, all these leadership practices undermined the authority of the heads and resisted the change imposed by Mr George. Transformational practices were used to align the teachers' activities behind the object of the department, protect the artefacts and organise the division of labour. Transformational practices unified the teachers against the changes because they were convinced they had built their community together. Authentic and transformational practices gained the teachers' trust and collaborative activity. The teachers joined forces to defend their identity and critical artefacts. Instructional practices were useful to gain the teachers' recognition and support (based on their discipline knowledge) when they resisted Mr George's innovations. Most interestingly, all these leadership practices were highly effective and prevailed against the heads of departments' transactional practices and best efforts for aligning the departments' activities with Mr George's innovations.

### 7.1.3 How does the department community respond to the leadership practices of the heads of department during periods of organisational change?

Overall, the teachers' actions resisted the change and their actions took the form of disagreements, complaints, frustration and apathy. Expressing their complaints was a way to protect those activities that distinguished the departments. Siskin (1994) suggests that when teachers feel unsafe, energy that could be devoted to innovation efforts is diverted to self-

protection and protection of interests. Siskin (1997, p. 615) describes a defensive posture of resistance, aggravated by "defensive manoeuvres, and often a militant celebration over small victories or standoffs, even when the costs are high … and it is the department that teachers most often see as their first line of defence".

Undermining the authority of the heads of departments was a means to preserve the teachers' own shared object and artefacts. When Fiona's lack of experience and discipline knowledge became evident, the teachers considered her to be unfit for the position. Sam was accused of lack of commitment and involvement with the department's most valued artefacts and activities, so the science teachers considered him an outsider.

The contrasting leadership practices between Fiona and the collaborative partnership between Paul and Kristy hindered the negotiation of shared objects, rules and artefacts within the social science department. The emerging disturbances were exacerbated by their interactions and the social science community became dysfunctional.

## *7.2 Summary of findings*

This thesis showed that implementing organisational change requires a comprehensive understanding of the systemic components on which the departments' systemic stability rests. Every process of organisational change should flow through these components, ensuring their stability and gaining their support. In this study, the systemic stability of the departments was shown to rest upon the departments' shared object, artefacts and rules. When the organisational change was introduced, each of these components was threatened by opposing leadership practices

which sought either to preserve them or modify them. Table 7.1 shows how the leadership practices impact the components of the activity system.

**Table 7.1**
**Leadership practices and components of the activity system**

| | Transactional leaders | Transformational leaders | Authentic leaders |
|---|---|---|---|
| Subject | They undermined the authority of the heads of departments before their department teachers.<br><br>Their actions disrupt the functioning of the departments as activity systems<br><br>They were unable to gain acceptance and credibility | Transformational leaders tend to protect and keep alive the former systemic components. | They positively affected cohesion and collaborative working.<br><br>They used dialogue to consolidate authentic relationships based on trust and friendship. |
| Object | They imposed their personal perspective of the object (e.g., school, department) | They unify the teachers' understanding of the shared object | They strengthened the bonds among the science teachers, influencing critical systemic components such as the shared object (continually challenge them to re-examine their teaching processes). |
| Other components (Artefacts, rules, community) | Rules were utilised as a means to consolidate authority.<br><br>Rule violations or mistakes were quickly and negatively sanctioned. | They prompt collaborative working, trust and friendship relations among the teachers.<br><br>They protect the artefacts and organise the division of labour. | They kept the science community cohesive and working together for their object and consequently they respected their rules and used their artefacts for improving teaching practices. |
| Disturbances-contardictions | They did not foster collaborative work and failed to solve disturbances possibly because they were unable to create trust and authenticity to sustain their negotiation processes. | Transformational practices unified the teachers against the changes because they were convinced they had built their community together. | Their practices were consistent with authentic transformational leaders who may have to be manipulative at times for the sake of the greater good. |

As shown in Table 7.1, the findings indicate that the departments' shared object is the fruit of transformational leadership which prompts collaborative working, trust and friendship relations which unify the teachers' understanding of the shared object. When the teachers committed to the shared object, they also worked collaboratively in developing artefacts, rules and division of labour that reinforced the shared object. Furthermore, these transformational leaders used dialogue, commitment, professionalism and discipline knowledge to create a distinctive identity for the department and the teachers' personal identification with it. Transformational leaders were seen as the creators and defenders of the object, whereas active transactional leaders imposed the new school object using normative relations, unilateral communications, distrust and authoritarian practices. When the new object was presented by the school authorities, patterns of leadership alignment (Gronn, 2000) were observed. For instance, intuitive working relations took place in the social science department (Paul and Kristy); unplanned alignment of leadership practices emerged in the social science and math-science departments (Fiona and Sam, respectively) while several leadership practices aligned the teachers against the merger (Monica in the math-science department). Instead of using distributive leadership to collectively enact and negotiate a new object, the different leadership practices were dispersed through the system, seeking to defend the existing one. Thus, identifying transformational leaders and negotiating solutions with them seemed critical because they have the power to unify the teachers behind the department object and this power grows and gains strength during periods of organisational change.

In relation to artefacts and rules, they were key systemic components that supported the object of the departments. Transformational department

leaders were shown to use artefacts as a means to maintain their object alive, while rules were the means through which they motivated the teachers to preserve the object. Overall, transformational leadership was determinant for the successful functioning of each department. They seemed comfortable with their rules and artefacts because they had agreed to them. Their rules provided direction and kept everyone involved in the activity system. For instance, Monica's authentic leadership kept the science community cohesive and working together for their object and consequently they respected their rules and used their artefacts for improving teaching practices. Similarly, field trips were considered critical artefacts to improve teaching and learning in the math-science department, and the coordinated transformational leadership practices of Paul and Kristy created rules to govern how these field trips were going to be executed every year. However, when changes were introduced by Mr George, they used transactional leadership to defend their perspective of the object (improving teaching and learning techniques) and they refused to give up any of the field trips that Mr George attempted to cancel. Instead of dialoguing with the other parties, they rejected the changes and tried to protect what they had developed over time, which led to conflicts and fracture.

This thesis also contributes to a better understanding of how the heads of departments and the department communities face disturbances and contradictions during periods of organisational change. In this sense, the study yields three important insights: first, results indicate that school authorities who exert transactional leadership take the risk of disrupting the functioning of the departments as activity systems whereas transformational leadership exerted by the school leaders tended to protect and keep alive the former systemic components. Transactional leaders supported by a hierarchical authority in this case divided the community. Melville, Wallace and Bartley (2007) argued that when management of the

school sees the department as "an administrative unit, teachers within the department are more likely to describe themselves using the community metaphor" (p. 1195). They viewed resistance to change as threatening. Hence, they fought the teachers' resistance by increasing the number of rules. Rules were utilised as a means to consolidate authority. As Tschannen-Moran (2001) noted, "one mechanism that organisations use as a substitute for trust and as a response to broken trust is the institution of rules" (p. 313). The resentment generated depends on the specific nature of the expectations that have been violated, when perceived trustworthiness is undermined across contexts, and then legalistic remedies are ill-suited to restoring lost trust (Tschannen-Moran, 2003). Sitkin and Roth (1993, p. 368) suggest that distrust is conceived when "the compatibility of employee's belief and values with the organisation´s cultural values are called to question". As it has been shown in this study, the teachers expected Mr George to invite them to participate in the design and implementation of changes, probably because they were used to working collaboratively and closely with Mr Martin, the principal. Thus, they felt frustrated when their expectations were not met and "the room of academic discussion was moved from the teachers' staff room to Mr George's office" (Sam, math-science head).

Second, school authorities exerted active transactional leadership towards the heads of departments. In this study, the heads experienced pressure from the vice-principal, which damaged their image before the department communities and hindered dialogue and negotiation with the teachers. Thus, the transactional leadership practices were major sources of disturbances and contradictions in the departments as activity systems.

Third, department leaders that did not gain acceptance in their community by appropriating its cultural components aggravated the emerging disturbances and contradictions. The departments became dysfunctional

communities. The school leaders did not achieve sustainable collaboration between activity systems, and the organisational change efforts were impeded. Department leaders did not foster collaborative work and failed to solve disturbances possibly because they were unable to create trust and authenticity to sustain their negotiation processes. Thus, disturbances were not resolved and derived into systemic contradictions. A plausible solution to Mr George's and the heads' lack of authority could be found in definitions of expertise in the practice of leadership. Engeström and Middleton (1996) describe expertise as collaborative and discursive construction of tasks, solutions and innovations within and across systems rather than individual mastery of innovations and change. In this sense, Mr George considered himself to have the necessary expertise to design and implement the organisational change without the collaboration of the department teachers or their leaders. He did not trust the department leaders' expertise and left them out of the academic discussion, which hindered expertise distribution within and across the systems. As Edwards, Lunt, and Stamou (2010) advance, experts must extend their knowledge to building links and trying to integrate what they know with what others want, or know and do.

## *7.3 Research Implications*

This study offers empirical evidence for a better understanding of how school leaders affect the success or failure of organisational changes. Because the school setting and the school departments are taken as activity systems, this study offers a novel perspective to examine leadership as contextualised practices. In contrast with extant research in leadership that emphasises how followers are affected, this thesis shows how different leadership practices are enacted around the systemic components of the departments to produce shared objects, artefacts and

rules, which are at the core of the department activity. Thus, organisational changes are shown to rely largely on whether department teachers and leaders take the change as either a process of continuity or discontinuity of their shared object and core values.

This study illustrates important reasons why organisational changes may fail. It directs school leaders' attention to the necessity to work with different department leaders. Appointed leaders (i.e. vice-principal and heads of department) should work with other leaders to reduce teachers' frustration, distrust and resistance to change. Negotiating components of the activity system may help communities open their boundaries to diverse members and their different perspectives. Critically reflecting on conflict within a school enables the potential for the kind of organisational change advocated by reformers (cf. Achinstein, 2002). Moreover, this study showed that department leaders and teachers saw themselves as "caretakers" when change efforts seemed to jeopardise the accepted objects of the departments. This implies that reforms that presuppose internal organisational changes (i.e. the merger) must generate changes not simply in the tangible elements of the organisation, such as management structures and decision rules, but changes should be implemented by the key actors who also make the activity decisions. These less tangible elements of an organisation need to be addressed if organisational change is to take place.

It is also important to highlight the consequences of ignoring the systemic and collective nature of disturbances and contradictions, and dealing with them by individual solutions instead. For instance, the vice-principal imposed his own intended object and created new rules and division of labour that were not accepted by the department teachers. Research suggests that leadership practices should mobilise members to think, believe and behave in a manner that satisfies emerging organisational

needs, not simply individual needs or wants (Donaldon, 2001). This is consistent with Engeström and Saninno (2010), who maintain that the resolution of contradictions is not a straightforward process that can neatly be controlled by a central authority or well-meaning interventionist. In this sense, the transactional leadership of Mr George put in practice his own personal agenda for the school. Consider, for example, the outcomes of the organisational change process should Mr George have resolved contradictions and disturbances through collective activity to expand the object, generate new artefacts and rules. It seems that promoting change with continuity and preservation of the departments' identity would have minimised resistance and promoted collaboration. To successfully lead these changes in schools, leaders should promote the change they envision as highly consistent with the current collective identity (shared object). From this perspective, the object, artefacts, rules and other systemic components may be given a sense of preservation and continuity, rather than loss.

## 7.4 Limitations of the study

There were two main limitations to the study design. The first limitation relates to the sample size. This study is a small-scale case study that focuses on only two school departments. Findings may not be generalised to a larger population. To address this limitation, I applied in full the theoretical framework of CHAT to a specific educational setting. The main idea is to obtain new solutions, new ways of understanding the activity system and how these new concepts can help to understand others' realities. The second limitation is related to the use of the activity system analysis. According to some critics of activity theory, this kind of representation is not sufficient to capture and understand the entirety of human psychology (Avis, 2009). It is acknowledged that CHAT is not

designed to capture the entire human dimension of an activity system, but aims to illuminate the process of change within the activity system (Engeström & Saninno, 2010). This limitation is partly compensated by drawing on multiple methods of data collection in order to capture how participants build the dynamic and complex activity system.

The findings may not be applied directly to other high school departments, but the conceptualisation and the methodology of inquiry for the study of the leadership practices provide useful insights and directions for further research across contexts. Regardless of how well research is conducted, there are inevitably limitations that cannot be controlled. Another limitation in this study was that at times I was not permitted to participate fully in the site. For instance, I observed only those department meetings I was allowed to attend. I compensated for this limitation by interviewing the school leaders and teachers after the meetings were over, and in various informal situations at school.

## 7.5 Future Research

For the purpose of this study, I explored two activity systems: social science and math-science departments, respectively. I focused on the activities within each department and their interactions with Mr George, the vice-principal. In future studies, it might be useful to study the interactions and relations between different levels of the school's organisational structure. For instance, the department activities were influenced by external systems such as school boards, parent associations or district authorities. I briefly dealt with the external relationships when I described the object of Mr George's leadership practices (e.g. students and parents), but I was limited with this study to fully research the dynamics between them.

Future directions for research may include an investigation of the role of leadership practices when the contradictions increase. Unresolved contradictions invite researchers to conduct further research. What is the role of authentic leadership practices in breaking the boundaries between unarticulated communities and new practices? How can leadership practices influence department communities to create new (and negotiated) artefacts and objects? How do leadership practices re-distribute these new components among the members of the community? How can leadership practices initiate efforts to overcome the obstacles and conflicts which emerge in the implementation process? These questions might be useful starting points for further research on leadership practices in schools during change.

In addition, future research should discuss the impact of the researcher's activity system on the activity systems of the school studied. Using CHAT in education research puts the investigator in contact with the research subjects. For instance, Nocon (2008) studied emerging contradictions between the conceptualisations and usage of timescales held by the researcher and the research participants. Nocon suggests that the longer timescales of traditional schooling activity tended to diminish the impact of the shorter timescales of the educational change process and undermined the acceptance by school personnel of educational innovations. She concludes that an approach to school change that seeks the sustainability of elements of educational innovations through coordinated actions of researchers and school personnel on the day-to-day timescales of schooling, provides a more productive lens from which to consider educational change processes. Feldman and Weiss (2010) studied how the teachers were affected when they studied their own practices during periods of educational change. Using CHAT as a theoretical frame, the researchers identified several contradictions between the object of their

study and the object of the teachers. Finally, the researchers explained how their own object was influenced by this interaction.

Thus, Nocon (2008) and Feldman and Weiss (2010) advance evidence to study the influence of the researchers on the objects of their study. In this study, I did not analyse the relations or influences between my activity system as a researcher and those of the participants, but I faced difficulties when I tried to make myself familiar and accepted among the school community and had to overcome them during the data collection period. For instance, some crucial questions when assessing the role of the researcher's activity system on the object of study would have been: What types of disturbances (criticism, disagreements) does the researcher face during the data collection period? How does the researcher solve the disturbances and contradictions that he finds in the interaction between his/her own activity system and the participants' activity system? How is the object of the study affected as a result of this interaction? What artefacts does the researcher design or negotiate with the participants to solve the obstacles, disturbances and contradictions that surface during this interaction?

Finally, there is room for investigating how different interventionist methodologies can contribute to solving systemic contradictions during organisational change. CHAT advances a methodological frame to identify the reasons why organisational change may either fail or succeed, which was the main focus of this study. At the school studied here, communications between the school authority and the departments were hampered and negotiation of new objects, artefacts and rules did not take place. This prevented me from taking this research to the next level and attempt introducing intervention strategies to solve the systemic contradictions and disturbances. Thus, further research could seek to apply interventionist strategies to implement change in school settings.

CHAT provides two crucial strategies in this regard: knot-working and co-configuration (Engeström, 2007). Negotiated "knot-working" is a form of collaboration. It refers to the distribution—the tying, the untying and retying together seemingly separate threads of activity systems. In "knot-working", the school leaders can promote collaboration between the activity systems. School leaders are called to bring together loosely connected people to work on complex tasks over relatively short periods. Co-configuration is formed during production of new objects that adapt to the changing needs of the school (Engeström & Saninno, 2010). This object has a very long life trajectory, requiring the authority to become a real partner with the school leaders. Co-configuration requires a greater degree of school community participation to work on the object. Co-configuration requires flexible "knot-working" in which no single actor has the sole, fixed authority. A precondition of successful co-configuration work is dialogue in which the parties rely on real-time feedback information on their activity. The negotiation of such information between the parties requires new, dialogical and reflective artefacts as well as new, collaboratively constructed functional rules (Engeström, 2001). Thus, the notions of co-configuration and knot-working lead to future-oriented research about how the leadership practices can be performed in these new ways of working within the organisation.

In summary, this thesis examines the organisational change process of the English School by emphasising the contextualised role of varied leadership practices. The actions of the vice-principal were crucial to understand how and why the change found opposition from the school leaders and department teachers. The departments responded by rejecting changes, by enclosing themselves and by protecting the components of their communities (rules, objects, artefacts). Negotiation processes were absent. The strong authoritative action of the vice-principal on one side and the teachers' sense of loss of identity on the other side increased feelings of

distrust towards the school authority. Without question, these are challenging times for the English School. Promoting transformational leadership and the development of transparency and trust typical of authentic leadership practices appear fundamental to initiate a successful negotiation process. Without the negotiation of objects, rules and artefacts, resolving current disturbances and contradictions within the departments and the school will be hampered.

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